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**CEKENAS END OF TERM TWO EXAM-2022**

**FORM FOUR EXAM**

*Kenya Certificate of Secondary Education. (K.C.S.E)*

***Agriculture paper 2***

***443/2***

***Marking scheme***

**1. Methods of identification**

- Branding

- Ear tagging

- Ear notching

- Tattooing

- Straps and chains (**Any 4 x ½ =2 marks)**

**2. Notifiable disease.**

- A disease whose outbreak must be reported to the government authority for the purpose of imposing a quarantine

- Prophylactics

- To control disease and parasites using preventive drugs **(1x2=2 marks)**

**3. Reasons why roughage is necessary in ruminants.**

- Facilitate digestion

- Adds to the bulk of food **(2x1=2 marks)**

**4. Qualities of a good grain store**

- Vermin proof

-• Well ventilated

- Water proof

- Easy to clean

- Easy to load and off load

- Raised to prevent dampness **(any 4x ½ = 2 marks)**

**5. Ways of improving production in indigenous cattle.**

- Proper control of disease and parasites

- Cross breeding with high yielding breeds

- Proper selection

- Proper feeding **(4x ½ =2 marks)**

**6. Factors to consider when formulating ration:**

- Percentage of nutrients to be obtained

- Value of the nutrients / protein content of the feed-stuff’s to be used. **(2marks)**

**7. Importance of farm buildings.**

- Increase efficiency of production

- Provide storage of farm inputs and produce

- Protect fanner and livestock from predators

- Help control disease and parasites

- Provide shelter against extreme conditions.

**8. Symptoms of Newcastle disease. (2 marks)**

- Difficulties in breathing

- Soft shelled eggs

- Birds produce watery, greenish diarrhea

- Drooping wings

- Birds walk with staggering motion

- Nasal discharges

- Loss of appetite

- Birds are dull

- Birds stand with eyes closed

- Beaks remain open with necks strained

- Birds produce harsh granting raspy sound when breathing **(any 4 x ½ 2 marks)**

**9. Creep feeding**: Feeding of piglets with pellets /high quality feed in secluded areas out of reach of their mothers. **(1x1=1 mark)**

**10. Routers** —removing wood to form a groove or make groove sooth.

- **Tin-snips**-cutting thin sheet of metal

- **Wood rasp** - smoothening wood

- **Chipping hammer** -removing rough stone surface **(4 x ½ =2 marks)**

**11. Methods of treating timber**

- Drying

- Sap displacement methods

- Pressure/ vacuum treatment

- Hot and cold soaking **(any 3x ½ =7 ½marks)**

**12. Importance of additives.**

- Promote growth

- Increase feed intake

- Prevent parasite attack

- Suppress excitement

**13. Predisposing factors for mastitis:**

-Age

- Stage of lactation

- Pendulous udder

- Incomplete milking

- Mechanical injuries

- Poor sanitation

- Poor milking technique. **(Any 4x ½ =2 marks)**

**14. Examples of three host tick**

- Brown ear tick

- East Africa bont tick

- Bont tick

- Gulf coast tick

- Fowl tick

- Yellow dog tick

- Brown dog tick **(Any 2x ½ =1 mark)**

**15. Uses of solar energy**

- Lighting

- Drying farm produce

- Cooking

- Distillation of water **(4x ½ =2 marks)**

**16. Causes of bloat:**

- Indigestion

- Blockage of oesophagus

- Pressure exerted on the oesophagus **(2x1=2 marks)**

**17. Two light breeds of poultry;**

- White leghorn

- Ancona

- Minorca

- Sykes **(2x ½=l mark)**

**18 a) Functions of parts G and F**

i) G is a share – its function is to cut the furrow slice horizontally. (1mark)

ii) F is a mould board – its function is to invert the furrow slice (1mark)

**b) Name the parts labelled K and I**

i) K is U bolt (1mark)

ii) I is Draft rod (1mark)

c) Mark on the diagram using letters M and N the two parts used to adjust the depth of ploughing. (1mark)

19. The diagram below shows a hen sitting on eggs. Use it to answer the questions that follow.

**a) Method of incubation**

-Natural incubation (1mark)

**b) Signs that may show that the hen is ready to sit on the eggs.**

- Produces characteristic crackling sound

- Tend to sit on the egg after laying

- Becomes aggressive

- Pluck feathers from breast region

- Walks with wings slightly spread out from the body. (Any 2 x 1 = 2mks)

**c) Problems of using the above method to hatch chicks.**

- The hen may abandon the eggs

- Only a small number of chicks can be hatched at a time.

- Not possible to plan when to incubate (Any 2 x 1 = 2mks)

**20a) Identity of tools P and Q.**

P – Is a watering can (1mark)

Q – is a cold chisel (1mark)

**b) Role of part labelled S on diagram P**.

- Allows water to come out in fine drops (1mark)

**c) Another tool used in conjunction with tool R.**

- Bull ring (1mark)

**d) Maintenance practice for tool Q (Cold chisel)**

- Sharpen regularly

- Store properly after use

- Coat with oil for long storage

- Occasionally remove mushroom from head. (Any 1 x 1 = 1mk)

**21. a) Name the parts labelled Z and W**

Z – Sperm duct (1mark)

W – Scrotum/ scrotal sac (1mark)

**b) State the function of part labelled V and Y**

V – Prostate gland – produce liquid that activates sperm (1mark)

Y – Testis – produce sperm and secrete male hormone (1mark)

**c) Adaptation of part labelled W**

**-** Less hairy to ensure rapid loss of heat from the testis (1mark)

**SECTION C (40MARKS)**

**22. a) Describe short term tractor servicing. (8marks)**

- Engine oil should be checked daily by use of dip stick and added if the level is low.

- Fuel level should be checked at the start of everybody’s work and added if necessary.

- Water level in the radiator should be inspected and if possible topped up

- The level of electrolyte should be checked daily and topped up with distilled water

- Tightening loose nuts and bolts replacing lost nuts and bolts before the day’s work.

- Grease should be applied by use of grease gun through the nipples

- Large sediments from the sediment bowl should be removed

- Tyre pressure should be checked every morning before the day’s work by use of pressure gauge.

- Fan belt tension should be checked to ensure that it reflects between 1.9cm to 2.5cm when pushed.

- Brake shaft bearing should be greased

- Engine oil should be drained completely from the pump and replaced with new oil

- The steering gear box oil should be inspected and refilled if the level goes below the recommended level.

- Oil in the differential should be replaced as recommended

- The linkage and pulley attachment should be greased

- Dirty oil should be removed and replaced with clean oil

**b) Explain the procedure of establishing a fish pond. (5mks)**

- Site selection – select a suitable place where water flows gently

- Site marking: Pegs are used to mark the channel from rivers to the entrance and exist

- Clearing the land; all vegetation is removed and taken away from the pond area.

- Digging the pond: soil is dug out/ the upper part of the pond should be 0.5m deep and the lower side 1.5m deep.

- Constructing the dyke; the dyke wall is constructed all around the pond;

**c) Outline preventive measures for livestock diseases. (7mks)**

- Vaccination

- Quarantine imposition on notifiable diseases

- Use of prophylactic drugs e.g. coccidiositats

- Proper hygiene

- Treatment of sick animals

- Proper selection and breeding

- Control of vectors

- Slaughtering and proper disposal of animals infected with highly infectious diseases e.g. Newcastle disease

**23. a) Describe contagious ardution brucellosis under the following subheadings:**

**i) Causal organism (1mark)**

- Bacteria/ Brucella abortus/ Brucella spp

**ii) Transmission (1mark)**

- By taking raw infected milk

- By handling a foetus born of an infected animal

**iii) Symptoms (4mks)**

- Spontaneous abortion/ premature births

- Retained placenta/ after birth

- Infertility in females

- Low libido in males

- Orchitis in bulls/ inflamed testis

- Yellowish/ brown/ slimy discharge from vulva

**iv) Control measures (4mks)**

**b) State the function of any five parts of a zero grazing unit in dairy farming. (5mks)**

- Milking stall – restraining cows during milking

- Calf pen rearing calf up to weaning

- Sleeping cubicles – provide shelter and warmth

- Loafing area- dunging, feeding, exercise and sunning

- Feed and water troughs – feeding and watering the animals

- Feed preparation room – preparing food rations and chopping fodder

- Store – For keeping dairy equipment and feed

- Milk recording area – weighing and recording of milk

**c) Explain five factors that should be considered when choosing tools and equipment to use in the farm. (5mks)**

- Suitability – tools should be suitable for the task

- Availability – tools/ equipment should be available in the shops

- Cost – tools/ equipment should be affordable by the framer

- Cost of maintenance – should be easily and cheap to maintain

- Operation – should be easy to operate by the farmer

- Durability – should last long when acquired

**24. a) Explain eight qualities of an ideal broader for a day old chick. (8mks)**

- Litter – litter on the floor inform of wood shavings to maintain warmth and absorb moisture

- Fresh air and ventilation – should have holes for ventilation to allow proper gaseous exchange

- Heat source – a heat source be provided and controlled to maintain current temperature within the brooder

- Well lit to allow chicks to see feeds and water.

- Dim light is recommended as bright light blinds the chicks and enhances positive pecking

- Adequate waterers to allow proper watering of chicks without overcrowding

- Shape of the broader- should be round in shape to avoid chicks overcrowding at the corners

- Fresh feed and water

- Some feeds should be put on the newspaper.

- Adequate feeders to allow proper feeding without overcrowding

**b) Describe seven factors that a farmer should consider when siting a bee hive to prevent swarming of bees. (7mks)**

- Shelter – should be protected from strong sun and wind

- Should be free from noise and other disturbances

- Place should be from pests and diseases

- The site should be free from dampness and bad odours

- Availability of water – water should be available within a 3km radius.

- Availability of flowers; flowers should be readily available to facilitate collection of nectar and pollen.

- Away from human beings and livestock

**24. c) State five functions of water in nutrition. (5mks)**

- Component of body cells and body fluids

- Used in biochemical reactions in the body

- Regulates body temperature through sweating and evaporation

- Excretion of metabolic wastes

- Makes cells turgid to maintain body shape

- Transportation of nutrients.