



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 $\frac{1}{2}$ =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 $\frac{1}{2}$ = 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 $\frac{1}{2}$ =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 farmer 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 grating raspy sound when breathing

(any 4 x $\frac{1}{2}$ = 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 smooth.

- Tin-snips-cutting thin sheet of metal
- Wood rasp - smoothening wood
- Chipping hammer -removing rough stone surface

(4 x $\frac{1}{2}$ = 2 marks)

11. Methods of treating timber

- Drying
- Sap displacement methods
- Pressure/ vacuum treatment
- Hot and cold soaking

(any 3x $\frac{1}{2}$ = 7 $\frac{1}{2}$ marks)

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 $\frac{1}{2}$ = 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 $\frac{1}{2}$ = 1 mark)

15. Uses of solar energy

- Lighting
- Drying farm produce
- Cooking
- Distillation of water

(4x $\frac{1}{2}$ =2 marks)**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 $\frac{1}{2}$ =1 mark)**18 a) Functions of parts G and F**

- i) G is a share – its function is to cut the furrow slice horizontally.
- ii) F is a mould board – its function is to invert the furrow slice

(1mark)

(1mark)

b) Name the parts labelled K and I

- i) K is U bolt
 - ii) I is Draft rod
- c) Mark on the diagram using letters M and N the two parts used to adjust the depth of ploughing.

(1mark)

(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
- Q – is a cold chisel

(1mark)

(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
- W – Scrotum/ scrotal sac

(1mark)

(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 farmer
- 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 brooder 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 brooder- 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.