

443/2

AGRICULTURE

PAPER 2

TIME: 2 HOURS

SEPTEMBER, 2022

LANJET EXAMINATION (2022)

Kenya certificate of Secondary Education (K.C.S.E)

MARKING SCHEME

SECTION A

1. Name **four** light breeds of poultry. (2mks)

- Sykes
- leghorns
- ancona
- minorcas

2. Reasons that a farmer opts to rear indigenous cattle breeds over the exotic breeds (1 mk)

- They can withstand high temperatures
- They are capable of walking for long distances in search of pasture and water.
- They are more resistant to most of tropical diseases and pest attack
- They can survive on poor quality pastures

3. Reasons for having foot bath in a cattle dip.

- Clean the feet of animals
- Control foot rot Rej. Control of diseases (2 x 1/2 = 1 mk)

4. Crutching and ringing

Crutching is the cutting of wool around the external reproductive organs of a female sheep to facilitate mating

Ringling is the cutting of wool around the sheath of the penis in rams to facilitate mating.

(Mark as a whole 1 mark)

5. Signs of kindling in a doe.

- **Nest building**
- **Plucking of fur From the body**
- **Loss of appetite.**
- **Restlessness.**

(4 x ½ = 2 marks)

6. State two conditions that make a cow to withhold milk during milking. (1 mark)

- **Washing a cow with hot water.**
- **Beating the cow(mistreatment)**
- **Change of milking man.**
- **Unfamiliar noise.**
- **Absence of food during milking.**

7 .Uses of a spring -tine harrow.

- **Levelling the seedbed.**
- **Breaking soil clods.**
- **Burying trash**
- **Aerating the soil.**

(4 x ½ =2 mks)

8. Signs of mite attack in poultry,

- **Irritation/scratching of the body.**
- **Anaemia,**
- **Presence of mites below the plumage in patches.**
- **Falling off of feathers.**

'Dermatitis due to burrowing effects.

• **Formation of crusts.** (4 x 1/2 = 2 mks)

9. a) Advantages of natural feeding in calf rearing.

• **Calf takes milk at body temperature,**

• **Milk is free from contamination**

• **it prevents scouring in calves.**

• **Milk is provided ad libitum.** (3 x 1/2 = 1 1/2 mks)

b) Advantages of Artificial Insemination (2mks)

- **Easier to transport semen**
- **Improved hybrid vigour**
- **Controls inbreeding**
- **Prevents breeding diseases**
- **Removes cost of rearing a bull**
- **Heavy bulls with good features can produce semen**

10. Ways in which infectious diseases can spread

- **Through vectors**
- **Through ingestion of contaminated food and water/through food and water**
- **Through contact**
- **Through inhalation of contaminated air/through air.** (3 x 1/2 = 1 1/2 mks)

11. Reasons for castration

- **Prevent uncontrolled mating.**
- **Improve the quality of meat**
- **Promote faster growth/facilitate weigh gain**
- **Make them docile**
- **Control breeding diseases**
- **Control inbreeding** (4 x 1/2 = 2 mks)

12. Characteristics of roughages

- **Bulky**
- **High fiber content**
- **Low nutrient content**
- **Low digestibility**

(4 x 1/2 = 2 mks)

13. Give two reasons for turning eggs regularly during incubation? (1mk)

- To prevent germinal disc from sticking on the shell as this may cause death of the embryo.
- To make sure warmth is distributed evenly around the egg for uniform embryo.

14. Roles of worker bees.

- Kills the drones after mating the queen
- Scouting for a new home
- collect nectar/water/gum/propolis/pollen
- Make honey combs
- Protect the colony

15. Reasons for controlling livestock diseases.

- Reduces spread of livestock diseases/production of healthy young ones
- Promote fast growth and early maturity - *rej to maintain good health in livestock*
- Make them have long productive life.
- Improve quality and safety of products
- Improve quantity of products
- Reduce cost of production. (4 x 1/2 = 2 mks)

16 Caponisation in poultry.

- Surgical /open method.
- Implanting pellets of the female sex hormone beneath the skin of the bird.
- Injecting with stilbestol hormone when they are one day old. (3 x 1/2 = 1 1/2 marks)

17. Advantages of using animal power.

- Animals are cheap to acquire /maintain.
- Require less skilled labour.
- Can be used on, small holdings.
- Are appropriate in very steep areas. (4 x 1/2= 2 mks)

18. (a) Blue ticks – Anaplasmosis/Gall sickness

(b) Brown ear ticks - E.C.F/Teireriosis,

(c) Tsetse flies - Trypanosomiasis (nagana) (3x 1/2 =1 1/2 mks)

SECTION B

19. (i) Brooder

(1mk)

(ii) To avoid flocking/crowding of chicks at the corners which may lead to suffocation and eventually death

(1mark)

(iii) Hot

(iv) The chicks have moved away from the heat source.

(v) It clogs the gizzard of the birds leading to indigestions and death (1mk)

20. (a)(i)Steaming up

(1mk)

(ii)Lactation/milk production

(1mk)

(iii)Flushing

(1mk)

(b)

- Facilitates rapid foetal development
- Reduces incidences of twin lamb disease /pregnancy/toxaemia.
- Increases and maintains high milk yield after birth.
- Ensures birth of a healthy animal.
- Give the ewe good condition for parturition.

(1 x 2 = 2mks)

21. a) A furrow wheel or rear thrust

B beam

C disc

D disc scrapper 4x1/2 = 2mks

b) Advantages of using the above implement over mould board plough. 2x1 = 2mks

- Good on rough field with stones, stumps or roots not easily broken by obstacles
- Good on wet, heavy and sticky soils
- Good on hard and dry soils by cutting various depth
- Can be used on soil prone to soil erosion
- Requires less power to pull
- Requires less maintenance

c) i) A **For balancing the whole implement**

Also used to adjust the depth of plough

ii) D **To remove wet soils from the disc**

Aid in the turning and inverting of the furrow slice (1mk)

22. Name the parts labelled P, T, and R S.

(2marks)

P-Wall plate.

1x ½ = ½ mk

T- Purlin.

1x ½ = ½ mk

R- Tie beam / cross tie.

1x ½ = ½ mk

S- Rafter

1x ½ = ½ mk

b)State the functions of P and T.

(2mks)

P- Hold the trusses securely.

T- Hold the roofing materials.

c)Give **two** chemical preservatives for treating timber before use in the construction of farm structures

- **tar, creosol, tanex, used engine oil and copper sulphate solution.2x ½ = 1mk**

SECTION C

23. . a) Describe the life cycle of a three host tick.

(8mks)

- **Eggs hatch into larvae on the ground**
- **Larva climbs on the first host.**
- **Larvae feed, sucks blood on first host.**
- **Engorged larvae drops on to the ground and moult into nymph**
- **Nymph climbs onto the second host and feed on blood.**
- **Engorged nymph drops to the ground and moult into adult.**
- **Adult climb on the third host, feed on blood and mate**
- **Engorged female drop to the ground and lay eggs.**

8x1=8mks

b) Give **three** tools used in construction of a wooden fence stating the use of each. (3mks)

- **Hand saw- this is for cutting timber to the recommended sizes.**
- **Claw hammer-for driving in nails into the work surface or out of the surface**
- **Plumb bob and line-ensures that the fence posts are vertical.**
- **Hole digger/soil auger-for digging the holes.**
- **Ramming rod-to firm the soil around the posts.**
- **Garden line- to establish straight lines.**

any 3x1=3mks

c) State **five** management practices done on an incubator. (5mks)

- **Egg turning after every 6-8 hours each day around 180⁰(but not done in the first 24 hours and last 3days)**
- **Remove broken eggs**
- **Maintain temperature at the appropriate range always.**
- **Add water if necessary to maintain the appropriate humidity always.**
- **Remove infertile eggs on the 5th day.**

5x1=5mks

d) State **four** factors that should be considered when selecting dairy goat for breeding. (4mks)

- **Should be a high milk producer.**
- **Should be healthy.**
- **Should be fertile**
- **Should be docile/mild temperature**
- **Should have a good mothering ability**
- **Should be disease resistant/tolerant.**
- **Should be adaptable to area to be kept.**

Any 4x1= 4mks

24. a) Discuss the general methods of controlling livestock diseases (10mks)

- **Proper feeding and nutrition to avoid deficiency disorders**
- **Proper selection and breeding to get disease resistant animals**
- **Proper housing and hygiene to avoid overcrowding e.g. pneumonia**
- **Isolation of sick animals to avoid contact e.g. foot and mouth**
- **Imposition of quarantine/legislation of rinderpest**
- **Use of prophylactic drugs e.g. coccidiostats**
- **Regular vaccinations to induce immunity e.g. brucellosis**
- **Slaughtering and burning or burying of infected animals e.g. anthrax**
- **Use of antiseptics and disinfectants e.g. in foot rot control**
- **Full vector control e.g. ticks and tsetse flies**
- **Treatment of sick animals to avoid source of infection**

- **Appropriate method of handling animals to avoid injury e.g. during branding, dehorning etc.**

1x10=10mks

b) Give five advantages of four-stroke cycle engines

(5 mks)

- **The engines produce high power and can do heavy farm work**
- **Have efficient fuel and oil utilization**
- **Perform a wide range of farm operations**
- **Engines are efficiently cooled with water thus allowing the production of large engine sizes**
- **The exhaust gases are effectively expelled from the cylinders**

1x5=5mks

a) Describe the essentials of clean milk production in dairy farming

(5mks)

- **Healthy dairy cows not suffering from mastitis etc.**
- **Clean dairy cows (teats)**
- **Healthy milk man not suffering from TB etc.**
- **Clean milking shed**
- **Clean milking utensils**
- **Clean milkman i.e. whole body**
- **Milk filtration, cooling and storage**
- **Proper feeding to avoid flavors in milk**
- **Proper milking technique without injuring teats**
- **Use of all recommended milking materials e.g. udder cloth, filtering pads, etc.**

1x5=5mks

25.a) State **five** advantages of embryo transplant.

(5mks)

- **It is possible to implant embryo from a high quality female to less valuable female and hence improve the performance of the offspring.**
- **It 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 the whole animal.**
- **Embryos can be stored for long periods awaiting availability of a recipient female.**

b) Describe coccidiosis disease under the following sub- headings.

i. Animals attacked

(2mks)

Calves, poultry, lambs and young rabbits.

ii. Causal organism

(1mk)

Coccidia of the Eimeria spp



iii. Symptoms

(4mks)

- Diarrhoea which may be whitish.
- Dysentery or blood in the dung.
- Birds have ruffled feathers, dull with drooping wings.
- Animals become emaciated
- Sudden death in birds, rabbits and kids.

iv. Control measures

(3mks)

- Use of coccidiostats.
- Observing hygiene.
- Isolation in cattle.
- overcrowding in a poultry house should be avoided.

c) A ration containing 20% DCP for growing chicks is to be obtained by mixing ground maize containing 10% DCP and fishmeal containing 50% DCP. Calculate the amount of each feedstuff in kilograms required to prepare 200kg of the feed. (5mks)

