AGRICULTURE PAPER 2
END YEAR EXAM – 2025
FORM THREE

MARKING SCHEME:

SECTION A: (30 MARKS)

1. List two biotic factors that affect livestock production in Kenya. (1mk)
   - ***Internal parasites***
   - ***External parasites***
   - ***Pathogens which cause diseases***

2. Outline four reasons that enable camels to live in arid areas. (2mks)
   - ***Can survive on poor pasture.***
   - ***They have hardy pads on their soles which help them to walk on sandy grounds.***
   - ***They have long eye-lashes to prevent entry of dust into their eyes.***
   - ***Their thick hides help them to resist high temperatures.***
   - ***They can survive for several days on little water.***

3. State four reasons for dehorning in livestock. (2mks)
   - ***To avoid injuries on other farm animals.***
   - ***To minimize destruction of farm structures.***
   - ***To economize on feeding space/transportation.***
   - ***Dehorned animals are more appealing.***
   - ***Dehorned animals are less aggressive /docile.***

4. State four advantages of using a spray race over a plunge dip. (2mks)
   - ***Faster and can spray more animals within a short period than plunge dips.***
   - ***Small stocks can be sprayed easily.***
   - ***Suitable for pregnant and sick animals as they do not get shock.***
   - ***Less labour required.***
   - ***Animals cannot swallow the accaricide.***
   - ***Right concentration of the accaricide is maintained because only enough solution is prepared in each operation.***
   - ***Avoids wastage of accaricide because used up chemicals are recycled.***

5. State four reasons for seasoning timber. (2mks)
   - ***To prevent warping due to uneven expansion and contraction.***
   - ***To prevent decay or fungal attack.***
   - ***Prevent cracking of timber.***
   - ***To improve durability and strength.***

6. State two types of bees. (2mks)
   i. African wild bees.
   ii. European bees

7. State four reasons for swarming of bees. (2mks)
   - ***Sick/infertile queen.***
   - ***Damage to the brood.***

- ***Absence of food and water in the surrounding.***
- ***Disease and pest out break.***
- ***Congestion in the liver/overcrowding – bad smell.***
- ***Unfavourable weather/temperature.***
- ***Noise and disturbance.***

8. Define the term caponization as used in livestock production. (1mk)
Is the act of making male birds sterile.

9. Outline four uses of water in animals on the farm. (2mks)
- ***Food transportation.***
- ***Component of body cells/body fluid.***
- ***Maintains shape of cells.***
- ***Expulsion of waste products.***
- ***Regulation of body temperature.***
- ***Used in biochemical reaction.***

10. Differentiate between steaming up and creep feeding. (2mks)
Steaming up – is the practice of giving pregnant animals highly nutritive feeds a few weeks towards gestation/giving birth.
Creep feeding – is the practice of providing young livestock with extra feed of high nutritive value to supplement mother's milk (piglets)

11. State four routes through which pathogens enter the body of an animal. (2mks)
- ***Mouth***
- ***Nostrils***
- ***Eye***
- ***Anus***
- ***Vulva***
- ***Wound/cuts on the skin.***

12. Differentiate between carrying capacity and overstocking. (2mks)
Carrying capacity – is the correct number of hectares that a forage crop can adequately support a given number of animals.
Overstocking – is keeping more animals per unit area of pasture than can adequately be supported by the pasture.

13. State four advantages of Zero grazing unit in livestock production. (2mks)
- ***High production due to less energy wastes..***
- ***Quick accumulation of manure.***
- ***Maximum use of fodder by livestock.***
- ***Easy to control parasites and disease.***
- ***Requires little land.***
- ***Allow higher stocking rate.***

14. Name the equipment used alongside each of the following: (2mks)
i) Trocar – ***canula***
ii) Bull ring – ***lead stick***
iii) Elastrator – ***rubber ring***

iv) Syringe – ***Hypodermic needle.***

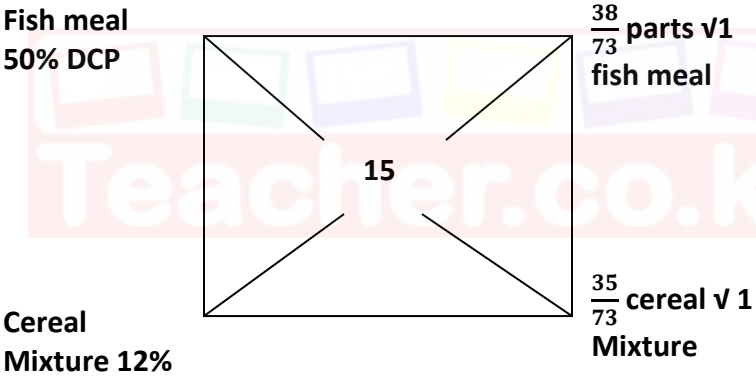
15. State four reasons that show that a sow is about to furrow. (2mks)
- ***Swollen and red vulva.***
- ***Animal starts to prepare a nest using litter.***
- ***Restlessness***
- ***Full and distended udder.***
- ***Slackening of pelvic muscles.***

16. State two major systems of breeding in livestock production. (2mks)
Inbreeding
Out breeding

SECTION B: (20 MARKS)
Answer ALL questions in this section.

17. Mr. Gatimu asked his daughter to mix feeds for his cows. Mr. Gatimu's daughter decided to use feedstuffs to get 15% DCP. The contents were as shown below
- Fish meal 50% DCP.
- Cereal meal mixture 12% DCP

(a) How much of the two feedstuffs will Mr. Gatimu's daughter mix to get a 90kg bag? (4mks)



$$\frac{38}{73} \times 90kg = 47kg\ fish\ meal\ \ \sqrt{1}$$
$$\frac{35}{73} \times 90 = 43kg\ cereal\ mixture\ \ \sqrt{1}$$
Total 4mks

(b) The diagram below illustrates a type of a digestive system.

(diagram)

i) Name the parts marked D and E. (2mks)
D – Abomasum
E – Rectum.

ii) State two functions of part F. (2mks)

- ***Absorbs water from food stuffs.***
- ***Grinds rough and large food particles***
- ***Sieves food particles before passing them into the next chamber in small quantities.***

18. The diagram below shows a cross-section through a fish pond. Study it and answer questions that follow.

(diagram)

a) Name parts A, B and C. (1 ½ mks)
A – inlet/inlet pipe
B – Spillway
C – Outlet pipe / drainage pipe.

b) What is the function of part labeled B. (½ mk)
- ***Spillway – allows removal of excess water from the pond hence preventing overflowing on the dykes.***

c) State four factors that should be considered when citing a fish pond.(2mks)
- ***Topography***
- ***Soil type***
- ***Security***
- ***Accessibility***
- ***Nearness to water source***

19. State four categories in which diseases in livestock are classified. (2mks)
- ***Protozoan***
- ***Bacterial***
- ***Viral***
- ***Nutritional causes.***

20. Below is an illustration of a livestock parasite. Study it and answer questions that follow.

(diagram)

i) Name the parasite. (½ mk)
Liver fluke

ii) State three symptoms that may be observed in an animal that has been attacked by the above parasite. (1 ½ mks)
- ***Loss of weight and emaciation.***
- ***Pot-bellied condition due to watery swelling on the body.***
- ***Animals suffers indigestion.***
- ***Damage of the liver and haemorrhage.***

- ***Anaemia.***
- ***Animal appears dull and depressed.***
- ***Swollen and painful abdomen.***

iii) State the intermediate host of the parasite. (½ mk)
Fresh water snail.

iv) Give two control measures of the above parasite. (2mks)
- ***Draining swampy areas, killing them, burning infected pasture, drenching avoid grazing in marshy areas.***

21. State two methods of extracting honey from combs. (2mks)
- ***Heat method***
- ***Crushing and straining.***
- ***Use of centrifugal extraction.***

SECTION C: (40 MARKS)
Answer any TWO questions from this section.

22. (a) Describe five factors to consider when selecting a breeding stock. (10mks)
- ***Production level***
- ***Age***
- ***Health***
- ***Mothering ability***
- ***Temperament***
- ***Adaptability***
- ***Body conformation***
- ***Prolificacy***
- ***Physical defects***

(Any 5 and explanation x 2)

(b) Describe five control measures of diseases in livestock and give an example of a disease controlled by the measure. (10mks)

- ***Prophylactic drugs e.g. coccidiosis.***
- ***Quarantine – foot and mouth, anthrax e.t.c***
- ***Isolation – calf scours***
- ***Culling/mass slaughter – foot and mouth, Anthrax***
- ***Vaccination – Anthrax, black quarter***
- ***Control of vectors – Nagana, East Coast Fever.***
- ***Use of healthy breeding stock – Brucellosis***
- ***Proper nutrition – Milk fever***
- ***Proper housing – Pneumonia***
- ***Proper milking techniques – Mastitis***
- ***Drenching – Ascariasis***
- ***Spraying – East Coast Fever***
- ***Keeping resistant animals – Zebus – East Coast Fever.***
- ***Hoof trimming – foot rot.***

23. Discuss mastitis disease under the following:-

a) Causal organism. (1mk)

Streptococcus spp or staphylococcus spp.

b) Symptoms. (3mks)

- ***Blood/pus in milk***
- ***Swollen or inflamated udder***
- ***Rise in body temperature***
- ***Drop in milk production***
- ***Pain in the udder or teats.***
- ***Milk has a salty taste.***
- ***Fine clots in milk.***

c) Causes. (4mks)

- ***Incomplete milking***
- ***Low standards of hygiene***
- ***Injury to the udder/teats***
- ***Genetic factors***
- ***Stress***

d) Control measures. (2mks)

- ***Use of correct milking technique***
- ***Use of a strip cut to detect infected cows.***
- ***Practice proper hygiene***
- ***Vaccination.***
- ***Use of dry cow therapy.***
- ***Treat with antibiotics***
- ***Call susceptible cows.***

24. (a) Explain five reasons why fences are important to a farmer. (10mks)

- ***Security***
- ***Mark boundaries***
- ***Rotational grazing – paddocking***
- ***To control parasite and diseases***
- ***Separate crops from livestock***
- ***Control soil erosion***
- ***Allows controlled breeding***
- ***Aesthetic value***
- ***Feed to livestock***
- ***Privacy***
- ***Controls animal and human movements by avoiding unnecessary paths.***
- ***Source of fuel***
- ***Wind breakers.***

(b) Explain five modern technology methods that have helped to improve the quality of livestock products in Kenya. (10mks)

- ***Introduction of new breeds with high quality production.***

- ***Introduction of new breeds adaptable to various ecological conditions.***
- ***New methods of parasite and disease control – vaccination.***
- ***Modern and hygienic breeding techniques e.g. Artificial Insemination.***
- ***New feeds formulated to produce high quality products.***
- ***Introduction of organic farming to produce safe products.***
- ***Use of modern animal rearing system and structures e.g zero grazing.***
- ***Use of modern methods of storage of animal products e.g. refrigeration.***
- ***Use of new methods of identification e.g. ear tagging instead of branding.***