

443/2 AGRICULTURE PAPER 2
JULY/AUGUST 2016

MARKING SCHEME

SECTION A – MARKING SCHEME

1. Disadvantages of Natural mating

- Wastage of semen
- Possible to transmit breeding diseases
- Involves a lot of labour
- Large males can injure small females
- Costs of production are high because male need maintenance (4 x ½ - 2 marks)

2. Reasons for supplementary feed on bees.

- Maintain the colony
- Encourage multiplication
- To supplement what bees obtain from flowers (2 x ½ - 1 mark)

3. Methods used in identifying goats

- Ear tagging
- Ear notching
- Tattooing (2 x ½ - 1 mark)

4. Signs of lambing

- Restless
- Distended full udder
- Appearance of water bag
- Sunken front part of the hip (3 x ½ - 1½ mark)

5. **Cropping in fish** is the removal or harvesting of marketable size of fish from the pond (1 x 1 = 1 mark)

6. **Reasons for jersey suitable marginal area.** (2 x ½ - 1 mark)

- Eat little food
- More resistant to high temperature
- Small in size

7. Methods used to control cannibalisms

- Debeaking the birds
- Give balanced diet
- Provide enough space
- Keep birds according to age
- Don't introduce new birds into the flock
- Isolate and treat cannibalized birds
- Hang green vegetables to keep them busy (4 x ½ -2 marks)

8. Reasons for foot bath in cattle dip

- Clean the feet of animals (2x ½ = 1 mark)
- Control foot rot

9. Advantages of disc plough over mouldboard plough

- Disc rolls over obstacles
- Requires less drawing power
- Requires less maintenance costs
- Works better on dry, hard and stick soils (3 x ½ = 1 ½ Marks)

10. Functions of water in animal body

- Component of cells and fluids
- For Bio-chemical reaction
- Helps excrete waste products
- Its part of animal products. (4 x ½ =2 marks)

11. Reasons for controlling livestock diseases

- Reduce spread of livestock disease
- Improve quality and safety of products
- Promote faster growth and early maturity
- Make them have long productive life
- Improve the quantity of products (4 x ½ =2 marks)

12. Importance of guard rails in furrowing

- Prevent sow from crushing piglets
- Prevent sow from eating creep feed (1 x 1 = 1 mark)

13. Groups of vitamins

- Fat/oil soluble vitamins
- Water soluble vitamins (1 x 1 = 1 mark)

14. Functions of

Shovel – mixing mortar/manure
- lifting soil/manure

Rubber ring – castrating young male animals (1 x ½ = ½ mark)

15. Control for fowl pox

- Regular vaccination
- Observe hygiene in poultry house
- Slaughter and properly dispose carcass of affected birds

16. Production ration is the feed given to an animal over and above the maintenance level in order to produce a given product, (1 x 1 = 1 mark)

17. Functions of a carburetor

- To regulate the air
- Vaporizes the air
- Atomises fuel into tiny droplets

18. Hormone responsible for milk letdown

- Oxytocin

(1 x ½ = ½ mark)

19. Chemical used to treat wood

- Tar
- Tanex
- Creosole

(2 x ½ = 1 mark)

20. **Characteristics of exotic breeds of cattle**

- Mature faster
- short calving interval
- Highly producing
- Relatively large in size
- Have short wide heads
- Long lactation period
- Thick bright skin

(4 x ½ = 2 marks)

21. **Uses of Biogas**

- For cooking
- For lighting
- Internal combustion engines/power stationary

(3 x ½ = 1 ½ Marks)

22. Practices done to make wooden fence posts last longer

- Reinforcing with concrete
- Cutting the top of posts at a slope
- Slightly burning of the posts
- Applying wood preservative.
- Proper drying/seasoning
- Covering the top of posts at a slope

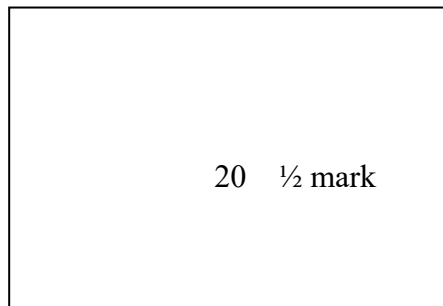
(5 x ½ = 2 ½ marks)

SECTION B

23.

Rice 16% DCP
½ mark

20 parts ½ mark



Soya bean 40%
DCP ½ mark

04 parts ½ mark

Total = 20 + 04 = 24 parts (½ mark)

Rice = $20/24 \times 100 = 83.3$ kg (1 mark)

Soya beans = $4/24 \times 100 = 16.7$ kg (1 mark)

24. (a) **Parts of a saw**

- F - Toe
- G- Blade

(1 x 1 = 1 mark)

(1 x 1 = 1 mark)

(b) Maintenance practices of part H

- Sharpening the teeth regularly
 - Setting the teeth to maintain the angle
 - Apply oil before storage to prevent rusting
 - Regular cleaning after use
- (3 x 1 = 3 marks)

25. (a) Parts of an egg.

- B – inner shell membrane (1 x ½ - ½ mark)
C – outer shell membrane (1 x ½ - ½ mark)
D – albumen (egg white) (1 x ½ - ½ mark)
F – Chalaza (1 x ½ - ½ mark)

(b) Qualities of an egg to be incubated

- Oval in shape
 - Cleanliness/absence of blood stains
 - Absence of cracks on the shell
 - Texture/smoothness of the shell
- (2 x 1 = 2 marks)

(c) Functions of E

- To provide nutrients for the developing embryo/chick (1 x 1 = 1 mark)

26. Parts of the digestive system

- P – Omasum (1 x ½ - ½ mark)
R – Rumen (1 x ½ - ½ mark)
Q – Gall bladder (1 x ½ - ½ mark)

(b) Functions of S and T

- S – Digestion/ absorption of food (1 x ½ - ½ mark)
T- Absorption of water (1 x 1 = 1 mark)

(c) Enzyme produced by R and S

- R – trypsin/amylase/lipase (1 x 1 = 1 mark)
S – Peptidase/maltase/sucrose/lactase (1 x ½ = ½ mark)

SECTION C

27. (a) Management practices for maximum fish harvesting

- Feeding
- Cropping
- Control of predators
- Repair of fish ponds and fences
- Changing of water
- Maintaining water level
- Fertilization of the fish pond

(State and explaining (5 x 2 = 10 marks))

(b) Management practices carried out in a crush.

- Milking
- Pregnancy diagnosis
- Vaccination
- Taking body temperature
- Dehorning

- Hoof trimming
- Applying the identification method e.g. branding, ear tagging etc.
- Spraying against external parasites
- Administering A.I (artificial insemination) (5 x 2 = 10 marks)

28. Management practices on ewes from mating to weaning of lambs

- Clipping of wool
- Hoof trimming 2 to 3 weeks after tapping.
- Flushing 2-3 weeks before tapping
- Proper timing on mating so as` lambing coincides with season of plenty pasture.
- Feed ewe on good pastures
- Give concentrates 3-4 weeks before lambing
- Move ewe to clean pastures 3 weeks before lambing
- Deworm ewes 2-3 weeks lambing
- Vaccinate 2-3 weeks before lambing
- Provide clean water
- Provide clean shelter for lambing
- Observe signs of lambing and assist where necessary
- Disinfect the naval cord immediately
- Ensure lambs suckle
- Rejected or orphaned lambs should be given to foster mothers.
- Keep lambs and ewes on good pastures
- Dock the lambs within the first 2 weeks
- Castrate male lambs that are not needed for breeding at 2 weeks old
- Introduce creep feeding to lambs at 6th week
- Spray/dust to control ectoparasites
- Identify lambs using appropriate methods.
- Keep proper records
- Deworm lambs
- Keep lambs on clean pastures (20 x 1 = 20 marks)

29. (a) Ways power is transmitted and made available from tractor engine in farm use (2 marks)

(i) Propeller shaft

- Connects gear box to the differential which has wheel axles.
- Wheel axles rotate to move the tractor and push or pull trailer implements

(ii) Power take off (P.T.A.) shaft

- Rotates at the same speed as the crankshaft
- Its connected to machines e.g. mowers, sprayers, Sheller's etc to perform farm operations (2 marks)

iii) Hydraulic system

- Its attached to the three – point linkage
- The three point linkage mounted to implements during the operations raises or lowers them during the operation like offloading of hydraulic mechanism of a trailer (2 x 1 marks)

(b) factors influencing milk composition

(i) Stage of lactation

- In the first 4-6 days, colostrums is produced and later changes to whole milk. During lactation period, the quantity of milk increases for the 1st 30 days after parturition and then slowly declines the fat content in milk is inversely related to the amount of milk produced.

ii) Age

- After attaining maturity (6-8 years) there is a slight decrease to % of fat content and also other major milk constituents like albumin, sodium chloride and non-protein gradually increases in milk as the cow ages.

(iii) Breed

- Milk composition varies with different breeds.

(iv) Nutrition

- The mineral and vitamin content of milk are easily influenced by the diet, fed to lactating cows, milk can be tainted by feeding silage and some weed plants e.g Mexican marigold.

(v) Animal health

- If a cow is infected with diseases, the milk yield declines and also the quality of milk deteriorates.

(vi) Amount of food consumed by the cow

- If animals consumes more food, the more amount of nutrients and more ingredients for milk production are available thus more milk produced.

(vii) Amount of water drunk

- If a lot of water is drunk instead of dry matter, less amount of milk is produced.

(viii) Length of milking interval

- The quantity of milk produced is higher when cows are milked after a long milking intervals.

ix) Ambient temperature/prevaling weather conditions

- Stressing weather conditions cause animals to produce less milk

(x) Handling the animal during milking

- Rough handling leads to low milk production due to antagonistic effects of adrenaline to oxytocin

(7 x 2 = 14 marks)