

4.15.2 Agriculture Paper 2 (443/2)

SECTION A: (30 MARKS)

1.
 - Dusting the birds with insecticide - sodium flouide.
 - Observing good hygiene.
 - Fumigation/smearing the affected perches with volatile insectides.
 - Picking and killing.

$4 \times \frac{1}{2} = 2$ marks
2.
 - The doe throws herself on its side.
 - Frequent urination.
 - Vulva turns red and swells.
 - Doe becomes restless.
 - Doe rubs her body against the wall.
 - Peeping/contacting other rabbits in adjacent hutches.

$3 \times \frac{1}{2} = 1\frac{1}{2}$
3.
 - Crushing and straining /squeezing method.
 - Heating method.
 - Use of centrifugal extractor.

$3 \times \frac{1}{2} = 1\frac{1}{2}$
4.
 - Hens stop laying eggs.
 - Hens sit on eggs for long periods /continuously.
 - Hen plucks off feathers to make a nest.
 - Hens are aggressive when approached/walks with wings open.
 - Characteristics cracking sound.

$3 \times \frac{1}{2} = 1\frac{1}{2}$
5. (a) Oxytocin effects last for five to seven minutes;
(b) Milk let-down is initiated when the milking time is reached;
(c) Prevent drying off/prevents reducing in yield/prevents mastitis infection.
- $3 \times \frac{1}{2} = 1\frac{1}{2}$ marks
6.
 - Sight of calf
 - Washing/massaging the udder.
 - Feeding
 - Sounds associated with milking.
 - Sticking to a regular milking routine.
 - Sight of milkman

$4 \times \frac{1}{2} = 2$ marks
7.
 - Presence of sores/wounds on the skin.
 - Irritation/scratching by the animal
 - Loss of hair/*alopecia*.
 - Anaemia
 - Presence of various developmental stages of the parasite on the animal.

$4 \times \frac{1}{2} = 2$ marks

8. • Reduction of vigour in animals/loss of hybrid vigour/heterosis.
 • Quality of products is lowered.
 • Reduction in disease resistance ability.
 • Appearance of undesirable hereditary defects.
 • Increase in abortion/embryonic mortality.
 • Decline in fertility
 • Reduced production.
- 4 x $\frac{1}{2}$ = 2 marks
9. • Cheap source of protein for the family.
 • Require little land and is possible where land is limiting.
 • Quick source of income for the farmer.
 • Makes fish to be available within the locality.
- 4 x $\frac{1}{2}$ = 2 marks
10. • Allow for even distribution of fat in the body.
 • Control breeding.
 • Increasing growth rate.
 • To make them docile.
 • Control breeding diseases.
- 2 x $\frac{1}{2}$ = 1 mark
11. • Checking for abnormalities/candling.
 • Selecting eggs of the right size/weight.
 • Cleaning/wiping off dirt.
 • Sorting and grading.
- 2 x $\frac{1}{2}$ = 1 mark
12. • Do not make half-cuts/make complete cuts.
 • Shear sheep during the dry warm season.
 • Do the operation on a clean dry floor/use clean shearing equipment.
 • Do not cut body parts.
 • Use clean shearing equipment
- $\frac{1}{2}$ x 2 = 1 mark
13. • Foundation of the building.
 • The floor slab/floor.
 • The Lintel.
 • Pillars.
 • Walls.
- 4 x $\frac{1}{2}$ = 2 marks
14. • Ratio of energy to protein in the feedstuff
 • Form in which the feed is fed to the animal/method of feed preparation.
 • Chemical composition of the feedstuff.
 • Species of the animal.
 • Amount of feed already present in the digestive system of the animal.
 • Rate of feeding/frequency of feeding.
- 4 x $\frac{1}{2}$ = 2 marks
15. • Lack of calcium in the feed
 • Disease attack such as Newcastle
- 2 x $\frac{1}{2}$ = 1 mark

16.
 - Topography/slope of land should be gentle sloping.
 - Reliable water source.
 - Area with cracks/anthills should be avoided.
 - Soil type/site should be free of gravel/stone/sand/preferably clay soil.
 - Secure from predators and thieves.
 - The site should be accessible.

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

17. Disadvantages of fold system:
- Few birds per unit area.
 - Laborious in moving the folds.
 - Difficult to keep individual bird production records.
 - Produces dirty eggs.
 - Fold breaks easily due to constant movement.

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

18. Dehorning methods:
- Use of sharp knife.
 - Burdizzo and knife.
 - Rubber ring and elastrator.
 - Use of hot iron.

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

SECTION B: (20 marks)

19. (a) A - Reticulum/Honey comb.
B - Rumen/pauch.

1 x 2 = 2 marks

- (b) A: - Separating fine and course food materials.
- Retaining indigestible food materials.

1 x 1 = 1 mark

- C: - Absorption of water.
- Grinding and sieving food particles
- Temporary food storage

1 x 1 = 1 mark

- (c) Pepsin/Renin

1 x 1 = 1 mark

20. (a) K - Urethra
L - Testes/testis

1 mark

1 mark

- (b) Epididymis - stores sperms
Seminal Vesicles - Secrete seminal fluid in which sperms move.

1 mark

1 mark

21. (a)
 - Check egg abnormalities
 - Monitor chick development during incubation
 - Check whether the egg is fertile1 x 1 = 1 mark
- (b)
 - A large dark section of developing chick.
 - A small clear section of air space.2 x 1 = 2 marks
22. (a) F - Toe 1 mark
G - Blade 1 mark
- (b)
 - Sharpening of teeth regularly to improve efficiency.
 - Regular cleaning after use to remove dirt.
 - Setting the teeth to maintain cutting angles.
 - Apply oil before storage to prevent rusting.1 x 3 = 3 marks
23. (a) A Ridger/mould board ridger. 1 mark
- (b) (i) To make ridges/furrows 1 x 1 = 1 mark
(ii)
 - used to attach the implement to a tractor.
 - Adjusting the depth of operation.1 x 1 = 1 mark

SECTION C: (40 marks)

24. (a) **Reasons for keeping livestock healthy**
- Good health ensures a long economic and productive life.
 - Healthy animals give maximum production/high performance.
 - Healthy animals grow fast and reach maturity early.
 - Healthy animals produce quality products which fetch good prices.
 - Healthy animals do not spread diseases to other animals/human beings.
 - Healthy animals are economical to keep/reduce production costs.
- Any 5 x 1 = 5 marks
- (b) **Symptoms of roundworm attack.**
- Anorexia/loss of appetite under heavy infestation.
 - Stiff dry coat or starring coat
 - Dehydration and pale mucosa.
 - Eggs and adults are seen in faeces
 - General emaciation
 - Animal may diarrhoea
 - Anaemic condition when infestation is heavy
 - Pot-bellies especially in young animals.
 - Coughing.
- 7 x 1 = 7 marks

(c) **Control measure for cannibalism**

- Avoid bright light in the house.
- Avoid overcrowding
- Provide balanced diet.
- Control external parasites.
- Hang vegetables in the house to keep birds busy.
- Debeak birds which peck at others.
- Cull perpetual cannibals/birds with prolapse.
- Provide adequate equipment feeders, waters, perches.
- Avoid introduction of new birds in the stock.

8 x 1 = 8 marks

25. (a) **Body conformation features of a dairy heifer.**

- Straight topline.
- Have large and well developed udder with large teats.
- Have large stomach which makes them heavy feeders
- Have prominent milk veins.
- Have less flesh on their bodies/lean bodies.
- Have well set hind quarters to allow room for large udders.
- Prominent pin bones.
- Wedge shaped.
- Long thin neck.

Any 5 x 1 = 5 marks

(b) **Disadvantages of live fences**

- May take long to establish into an effective fence.
- Not effective in sub-dividing land into paddocks/occupies a large space.
- May harbour pests.
- May create hiding places for thieves, wild animals and vermin.
- May be labour demanding to trim and infill regularly.
- May have shading effects on crops/competition for nutrients, moisture.
- May leave gaps which allow animals and thieves to pass through.
- Some may injure both livestock and the farmer.

(7 marks)

(c) **How a for stroke cycle Engine works**

- Induction stroke/intake
 - Piston moves down the cylinder causing the inlet valve to open drawing in fresh supply of petrol vapour and air into the cylinder.
- Compression stroke
 - The inlet valve closes and the piston moves up the cylinder. This compresses the fresh fuel mixture in the combustion chamber.
- Power Stroke/ignition
 - A spark is produced at the spark plug. This causes the fuel mixture to ignite and expand resulting in pressure that forces the piston to move down the cylinder.
 - Both valve closed.

- Exhaust stroke
 - The piston moves up the cylinder to eliminate the burnt fuel mixture through the open exhaust valve.

Any 4 x 2 = 8 marks

26. (a) **Management practices on calves**

- Culling highly susceptible calves.
- Spraying with appropriate acaricides to control external parasites/ticks.
- Drenching with antihelminthes to control internal parasites.
- Vaccinate as appropriate against diseases
- Castration of males not required for breeding.
- Identification at the appropriate age to facilitate record keeping.
- Removal of any extra teats if more than four.
- Debudding/Dehorning
- Proper feeding of the calf.
- Treat the sick.
- Isolate the sick calves.
- Maintenance of hygiene.

Any 7 x 1 = 7 marks

(b) **Brucellosis**

- (i) Causal organism
- Bacteria/*Brucella abortus/mellitensis/suis/sp*

1 x 1 = 1 mark

- (ii) Animals affected
- Cattle
 - Sheep
 - Goats
 - Pigs

2 x 1 = 2 marks

- (iii) Symptoms
- Spontaneous abortion/premature births.
 - Retained placenta.
 - Infertility in females.
 - Low libido in males.
 - Orchitis/inflamed testis.
 - Yellowish/brown slimmy discharge.

Any 5 x 1 = 5 marks

- (iv) **Control**
- Use of A.I.
 - Culling/slaughter and properly dispose the carcass.
 - Vaccination.
 - Avoid contact with aborted foetus.
 - Blood test to detect infected animals.
 - Observe proper hygiene.

Any 5 x 1 = 5 marks