

443/2 AGRICULTURE PAPER 2 - MARKING SCHEME

1.
 - Blocked fallopian tubes
 - Damaged fallopian tubes.
 - Deficiency of essential nutrients e.g. Vitamin E.
 - Freemartin. (2 x ½ = 1mk)

2.
 - Corriedale
 - Ramney marsh
 - Hampshire Down (2 x ½ = 1mk)

3.
 - Quarantine – it is the restriction of movement of animals and their product from and into the affected areas in the event of an outbreak of a notifiable disease.
 - Isolation – it is the separation and confinement of a sick animal from the healthy ones. (Mark as a whole) (2 x ½ = 1mk)

4.
 - (i) Cockerel – young male bird from eight weeks up to maturity.
 - (ii) Capon – bird which has been rendered sterile.
 - (iii) Ewe – a mature female sheep.
 - (iv) Gilt – a young female pig after first parturition. (4 x ½ = 2mks)

5.
 - To avoid chemical poisoning / lead poisoning that may be in paint.
 - Discourage insects from inhabiting the shed.
 - Avoid tainting milk if shed is used immediately. (2 x ½ = 1mk)

6.
 - Change of milkman / milk woman.
 - Strange surrounding and people.
 - Change of milking schedule.
 - Effect of oestrus.
 - Excitement or frightening of the cow. (3 x ½ = 1½mks)

7.
 - (a) Needle – Syringe.
 - (b) Rubbering – Elastrator.
 - (c) Canula – Trocar
 - (d) Lead stick – Bull ring (4 x ½ = 2mks)

8.
 - (i) Drawbar – For attachment of trail implement.
 - (ii) Propeller shaft – connect gearbox to differential which has axle to drive wheel making tractors to move backward or forward.
 - (iii) Hydraulic system – raise and lower mounted implement like plough. (3 x ½ = 1½mks)

9.
 - (a) Liver fluke – Fresh water snails. (½mk)
 - (b) Tapeworms – cattle or pig. (½mk)

10.
 - Soil depth
 - Soil type
 - Function of building. (3 x ½ = 1½mks)

11.
 - Its direction of flow keeps on changing.
 - It is not available all the time.
 - It has no constant strength. (3 x ½ = 1½mks)

- 12.

- Cross cut saw are used for cutting wood across the grain while Rip saw are used for cutting along the grains of wood. (Mark as a whole) (2 x ½ = 1mk)
- 13.
- Growth, repair and replacement of worn-out body tissues.
 - Production of antibodies which protect the animal from diseases.
 - Production of digestive enzymes to break food particles.
 - Production of certain hormones in the body.
 - Production of such products like meat, milk, egg and wool. (4 x ½ = 2mks)
- 14.
- In the dead animal is a tar – like watery blood comes off the orifice such as nose, anus and mouth. Blood does not clot quickly.
 - Carcasses of an anthrax attack lack rigor mortis. This is the stiffness of the body which is seen in other carcasses. (2 x ½ = 1mk)
- 15.
- To a void the germinal disc sticking on to the egg shell leading to possible lack of hatchability because of embryonic hatchability. (2 x ½ = 1mk)
- 16.
- Sieving and separating fine from coarse food materials.
 - Retaining foreign and indigestible materials such as polythene papers, wires and piece of strings which might have been eaten accidentally. (2 x ½ = 1mk)
- 17.
- Alter the angle of discs to the direction of travel.
 - Add weight on the framework.
 - Adjust the height of the wheels. (2 x ½ = 1mk)
- 18.
- Their bodies are wedge to triangular shaped.
 - They are docile with mild temperament.
 - They have a straight line.
 - They have a well set apart hind quarters udders with large teats well separated.
 - Has prominent milk veins.
 - Their lean bodies carry little flesh.
 - Large stomach capacity that enables the animal to feed heavily for high milk production. (mark any 4 x ½ = 2mks)
- 19.
- Crutching is cutting wool around the external reproductive organ of a female sheep (hoggets and ewes) to facilitate mating and prevent infection.
 - Ringing is the practice of trimming wool around the sheath of the penis of the rams to facilitate mating. (2 x ½ = 1mk)
- 20.
- Intramuscular injection – directly into a major muscle mass.
 - Orally – through the mouth.
 - Intravenous injection – into lumen of a blood vessel.
 - Subcutaneous injection – beneath the skin but on top of muscle layer. (4 x ½ = 2mks)
- 21.
- Milk evenly and quickly.
 - Milk at regular times.
 - Complete milking should be done. (2 x ½ = 1mk)
- 22.

- Use of hook and line.
- Use of nets.
- Draining the pond to catch all the fish in the pond.

(3 x ½ = 1½mks)

23.

- Bacterian

(½mk)

SECTION B (20 MARKS)

24. (a) a – U-bolt
 b – Draft rod
 c – Handle bar

(3mks)

- (b) d – Share cut the furrow slice horizontally.
 e – Mould board inverts the cut soil (furrow slice)

(2mks)

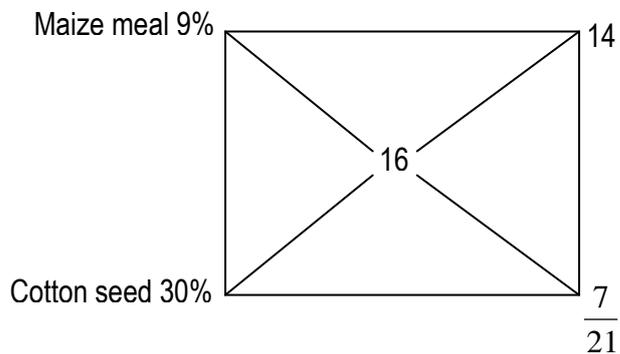
25. (a) (i)

(1mk)

(ii) - Before weaning / 3 – 7 weeks of age / 21 – 56 days

(1mk)

(b) Pearson square method



Drawing (1mk)

$$\text{Maize meal} = \frac{14}{21} \times 100 = 66.67\text{kg}$$

(1mk)

$$\text{Cotton meal} = \frac{7}{21} \times 100 = 33.33\text{kg}$$

(1mk)

26. (i) A – Crop

B – Proventriculus

C – Gizzard

(3mks)

(ii)

- It is highly muscular and therefore provide energy to break down food.
- It has tough inner lining to protect it from grit.
- It stores grit to aid in breakdown of food.

(2 x ½ = 2mks)

27. (a) a – Adjustable spanner.

(1mk)

b – Open ended spanner

(1mk)

(b)

- Has adjusting nut used to close or open the jaws depending on the size of the nut to be opened or tightened but can **b** only tighten or loosen nuts of specific size.

(1mk)

(c)

- Proper storage
- Oil the moving part.
- Rub with an oily rug to prevent rusting.

(2 x 1 = 2mks)

SECTION C

28. (a) Functions of the parts of ignition system.

(i) Ignition coil - it steps up power required for starting fuel combustion.

- It also convert the low battery voltage of 12 volts to 600 volts.

- Provide a sparking plug in the engine cylinder. (1 x 1 = 1mk)

(ii) Distributor – causes the sparks to occur at each cylinder in the required firing order.

(iii) Contact breaker – to interrupt the normal flow of current in the primary circuits.

This result in high voltage from the coil.

(iv) Condenser – temporary stores electric current.

- Absorbs the self induced current in the primary circuit preventing the contact breaker point from excessive heating. (4 x 1 = 4mks)

(b) Maintenance practice of the ignition system

- The spark plug whose electrodes are worn out should be replaced.
- The contact breaker point should be cleaned.
- The condenser should be replaced regularly.
- The ignition system should always be kept dry.
- The carbon deposits on the spark plug electrodes should be removed.
- The breaker points should be adjusted so that they lie between 0.30mm and 0.50mm.
- Ignition wires with poor insulator should be replaced. (mark any 6x1 = 6mks)

(c) Care and maintenance of a tractor battery.

- Check the level of electrolyte and top up to keep it above the plate using distilled water.
- Corroded terminals should be scrapped down and smeared with grease.
- The battery should be tightly fitted in the box to avoid spillage and damage.
- The battery should be fitted correctly on the tractor.
- The battery should be charged regularly and periodically.
- Empty the battery and place it upside down incase of long storage.
- The generator fan belt should always be functional to ensure the battery is always charged.

(any 6x1 = 6mks)

(d) Appropriate ages of debeaking

- When the birds are about 4 – 6 weeks of age.
- When the birds are about 10 – 12 weeks of age.
- Just before the beginning of production for layers.
- Whenever necessary during the laying period. (4 x 1 = 4mks)

29. (a) Advantages of KTBH over Log hive

- Easier to construct.
- Cheap to construct.
- Harvested honey is free from contamination.
- Top bar can be removed to inspect combs and can be replaced without problems.
- More wax and honey is harvested.
- Honey combs can be removed without causing destruction to the brood.

(4 x 1 = 4mks)

(b) (i) Cause

- Bacteria known as - Brucella abortus in cattle.
- Brucella suis in pigs
- Brucella melitensis in goats and sheep. (1mk)

(ii) Transmission

- By taking raw infected milk.
- By handling a foetus born of an infected animal.

(1 x 1 = 1mk)

(iii) Symptoms

- Spontaneous abortion / pre-mature birth.
- Retained after-birth or placenta if abortion occurs during later stages of pregnancy.
- Barrenness in cow while bulls have low libido and inflamed testis (orchitis).
- Yellow, brown, slimy, odourless discharge from the vulva may occur.

(4 x 1 = 4mks)

(iv) Control measures

- Use of artificial insemination.
- Cull the infected animals and slaughter them and dispose them off well.
- Animal attendant should avoid contact with the aborted foetus.
- A blood test should be carried out for all breeding animals in order to detect the infected one.
- All young animals should be vaccinated against the disease.
- Maintain cleanliness in the animal houses.

(4 x 1 = 4mks)

(c) Advantages of sprayrace over cattle dip

- Acaricide wash is not wasted since it is recycled in the process.
- Animals cannot swallow acaricides.
- The farmer can spray even small, sick and pregnant animals.
- It is faster than cattle dip.
- Less labour is required as compared to a cattle dip.
- The right concentration of acaricide is maintained because only enough solution is prepared in each operations.

(6 x 1 = 6mks)

30. (a) Management of sheep from mating upto including weaning of lamb

- Flush the ewe by giving extra concentrates / high plane of nutrition 3 weeks after mating.
- Continue flushing 3 weeks after mating.
- Clip wool around the vulva to facilitate easy mating / crutching / tugging.
- Raddle the ram before mating / nipping/ applying point.
- Clip wool around the sheaths of ram / ringing.
- Ram should be used at the rate of one ram for about 35 ewes for tugging season.

- Time the mating so that lambing coincides with the season when there is plenty of pasture.

- If more than one ram is used for mating use a different colour for each ram in raddling.
- Remove rams from ewes after the mating season / after 3 weeks after mating.
- Feed ewe on good pasture / concentrates 3 – 4 weeks before lambing / streaming up.
- Move ewes to a clean pasture 3 weeks before lambing.
- Deworm ewes 2 – 3 weeks before lambing.
- Vaccinate ewes 2 – 3 weeks before lambing against common diseases e.g. pulpy kidney, lamb dysentery diseases.
- Provide clean water to the sheep.
- Provide shelter for lambing.
- Observe for signs of lambing and supervise lambing.
- Disinfect the navel cord immediately after.
- Ewes that give birth to more than one lamb should be given extra feeding.
- Weak lambs should artificially reared.
- Rejected / orphaned lambs should be given to foster mothers.
- Keep lambs and the ewes on good pasture.
- Dock the lambs within the first 2 weeks.
- Castrate male lambs not needed for breeding within two weeks.
- Introduce creep feed to the lambs from 6 weeks.
- Dip / spray / dust the sheep as necessary against ecto-parasites.
- Wean lambs between 4 – 5 months at 22kg live weight.
- Trim hooves before mating.
- De-worm the lambs before weaning.
- Identify the lambs before weaning.
- Keep proper records.
- Cut wool around the teat after lambing.
- Treat sick animals.

(20 x ½ = 10mks)

(b) Advantages of using animal power over tractor power.

- Can be used when land is not accessible by tractors.
- Can be used where pieces of land are irregularly shaped.
- Can be used where there are small pieces of land.
- Can be used where there are very steep slopes.
- It is cheaper to buy and maintain compared to tractor engine power.
- Does not require skilled workers.
- Can be used where tractor hire services are costly.

(any 5x1 = 5mks)

(c) Factors to consider in siting a farm structure

- Nearness to social amenities.
- Farmer's tastes and preferences.
- Purpose of the structure.
- Space for future expansion.
- Relationship with other existing structures.
- Position of the sun for better lighting.
- Direction of the prevailing wind.
- Government regulation.
- Type of soil.
- Security.

(any 5x1 = 5mks)