

#### 4.15.1 Agriculture Paper 2 (443/2)

#### SECTION A (30 marks)

1.	<p>Functions of walking area</p> <ul style="list-style-type: none"> <li>➤ Exercise</li> <li>➤ For dunging</li> <li>➤ sunning</li> </ul> <p style="text-align: right;"><b>(2 x ½ mark)</b></p>	<b>(1 mark)</b>
2.	<p>Characteristics of succulent roughages</p> <ul style="list-style-type: none"> <li>➤ High fibre content</li> <li>➤ High moisture content</li> <li>➤ Low protein content</li> <li>➤ High carbohydrate content</li> </ul> <p style="text-align: right;"><b>(4 x ½ mark)</b></p>	<b>(2 marks)</b>
3.	<p>Symptoms of contagious abortion</p> <ul style="list-style-type: none"> <li>➤ Spontaneous abortion/premature birth</li> <li>➤ Retained afterbirths/placenta after abortion</li> <li>➤ Orchitis in bulls/low libido/barreness in cows</li> <li>➤ Yellow brown slimy/odourless discharged from vulva after abortion</li> <li>➤ Low libido in bulls;</li> <li>➤ Infertility in cows;</li> </ul> <p style="text-align: right;"><b>(4 x ½ mark)</b></p>	<b>(2 marks)</b>
4.	<p>Factors considered in selecting eggs for marketing</p> <ul style="list-style-type: none"> <li>➤ Cleanliness</li> <li>➤ Size of egg</li> <li>➤ Candling qualities</li> <li>➤ Egg colour</li> <li>➤ Shell texture;</li> </ul> <p style="text-align: right;"><b>(4 x ½ mark)</b></p>	<b>(2 marks)</b>
5.	<p>Maintenance practice of hoof trimmer</p> <ul style="list-style-type: none"> <li>➤ Repair broken parts</li> <li>➤ Oil the metal parts on long storage</li> <li>➤ Sharpen jaws when blunt</li> <li>➤ Clean after use</li> <li>➤ Grease/lubricate moving parts to reduce friction</li> <li>➤ Tightening the nuts</li> <li>➤ Proper storage</li> </ul> <p style="text-align: right;"><b>(4 x ½ mark)</b></p>	<b>(2 marks)</b>
6.	<p>Disadvantages of a tractor as a source of power</p> <ul style="list-style-type: none"> <li>➤ Expensive to buy and maintain</li> <li>➤ Requires skilled personnel</li> <li>➤ Their use is limited in certain areas</li> <li>➤ It requires support services</li> <li>➤ Expensive to maintain;</li> </ul> <p style="text-align: right;"><b>(2 x ½ mark)</b></p>	<b>(2 marks)</b>

7.	Beef breeds ➤ Hereford ➤ Galloway ➤ Aberdeen angus ➤ Beef shorthorns ➤ Charolais  <div style="text-align: right;"><b>(4 x ½ mark)</b></div>	<b>(2 marks)</b>
8.	Origin of breeds ➤ Friesian - Holland/Holstein ➤ Ayrshire - Scotland  <div style="text-align: right;"><b>(2 x ½ mark)</b></div>	<b>(1 mark)</b>
9.	Control measures of foot rot ➤ Clean environment/avoid dampness muddy conditions ➤ Regular hoof trimming ➤ Regular walk through foot bath/copper II sulphate solution ➤ Treat wounds with antiseptics ➤ Isolate sick animals  <div style="text-align: right;"><b>(4 x ½ mark)</b></div>	<b>(2 marks)</b>
10.	Signs of heat in pigs ➤ Restlessness ➤ Frequent urination ➤ Swelling & reddening of the vulva ➤ Clear & slimy mucus discharge from the vulva ➤ Frequently mounting others/standing to be mounted ➤ Positive response to riding test  <div style="text-align: right;"><b>4 x ½ mark)</b></div>	<b>(2 marks)</b>
11.	Categories of livestock parasites ➤ Internal parasites/endo-parasites ➤ External parasites/ecto-parasite  <div style="text-align: right;"><b>2 x ½ mark</b></div>	<b>(1 mark)</b>
12.	Types of calf pens ➤ Raised permanent pens ➤ Permanent calf pen with concrete floors ➤ Mobile calf pens  <div style="text-align: right;"><b>2 x ½</b></div>	<b>(1 mark)</b>
13.	Importance of identification ➤ Selection/breeding ➤ Disease control/treatment ➤ Feeding ➤ Record keeping ➤ Culling ➤ For tracing purposes  <div style="text-align: right;"><b>4 x ½</b></div>	<b>(2 marks)</b>

14.	Preventive measures for livestock diseases <ul style="list-style-type: none"> <li>➤ Isolation of sick animals</li> <li>➤ Imposition of quarantine</li> <li>➤ Use of prophylactic measures</li> <li>➤ Slaughter and proper disposal of infected animals</li> <li>➤ Use of antiseptics/disinfectants</li> <li>➤ Proper housing</li> <li>➤ Proper hygiene</li> <li>➤ Proper feeding</li> <li>➤ Proper selection and breeding</li> <li>➤ Treatment</li> </ul>	4 x ½	(2 marks)
15.	Reasons of castration <ul style="list-style-type: none"> <li>➤ Control breeding</li> <li>➤ Control breeding diseases</li> <li>➤ Hasten growth rate</li> <li>➤ Increase quality of meat especially in goats</li> <li>➤ Make them docile</li> <li>➤ Control inbreeding</li> </ul>	4 x ½	(2 marks)
16.	Causes of livestock diseases <ul style="list-style-type: none"> <li>➤ Bacteria</li> <li>➤ Protozoa</li> <li>➤ Virus</li> <li>➤ Nutritional disorders</li> <li>➤ Physical injuries</li> <li>➤ Chemical causes</li> <li>➤ Parasites</li> <li>➤ Fungi</li> </ul>	4 x ½	(2 marks)
17.	Methods of fish preservation <ul style="list-style-type: none"> <li>➤ Freezing</li> <li>➤ Salting</li> <li>➤ Sun drying</li> <li>➤ Smoking</li> </ul>	4 x ½	(2 marks)

### SECTION B (20 marks)

18.	<p>(a) Cattle/sheep/goat</p> <p>(b) E - Abomasum</p> <p style="padding-left: 40px;">F - Reticulum</p> <p>(c) Functions of rumen(G)</p> <ul style="list-style-type: none"> <li>➤ Temporary storage of food before regurgitation</li> <li>➤ Fermentation of food</li> <li>➤ Microbial digestion <ul style="list-style-type: none"> <li>- Synthesis of vitamin B complex</li> <li>- Synthesis of Amino acids</li> <li>- Breakdown of protein to peptides</li> <li>- Breakdown of carbohydrates and cellulose to carbon iv oxide and volatile fatty acids</li> </ul> </li> <li>➤ Absorption of ammonia gas &amp; fatty acids</li> </ul>	<p>(1 mark)</p> <p>(1 mark)</p> <p>(1 mark)</p> <p>(2 marks)</p>
19.	<p>(a) (i) Fowl pox</p> <p style="padding-left: 40px;">(ii) Legs/vent/wings</p> <p>(b) Predisposing factors of fowl pox</p> <ul style="list-style-type: none"> <li>- Presence of wounds</li> <li>- Presence of biting insects e.g. mosquitoes/mites</li> </ul> <p>(c) - Vaccination</p> <p style="padding-left: 20px;">- Killing and proper disposal of all infected birds</p>	<p>(1 mark)</p> <p>(1 mark)</p> <p>(2 marks)</p> <p>(1 mark)</p>
20.	<p>(a) (i) Debeaking</p> <p style="padding-left: 40px;">(ii) It cauterizes the wound to prevent bleeding/infection</p> <p>(b) - Cannibalism</p> <p style="padding-left: 20px;">- Egg eating</p> <p>(c) - Provide adequate balanced diet</p> <p style="padding-left: 20px;">- Hang vegetables in the poultry house to keep the birds busy</p> <p style="padding-left: 20px;">-Scatter grains on the litter to keep birds busy</p>	<p>1 mark</p> <p>1 mark</p> <p>2 marks</p> <p>1 mark</p>

21.	(a) Elastrator and rubber ring	1 x 1	1 mark
	(b) (i) docking (ii) castration (iii) dis-budding	2 x 1	2 marks
	(c) (i) bloodless (ii) Less painful/stressful (iii) Requires less skills (iv) Is less stressful	2 x 1	2 marks

### SECTION C (40 marks)

22.	<p>(a) Requirements of ideal calf pen</p> <ul style="list-style-type: none"> <li>➤ Cleanliness: pens should have concrete floors to facilitate cleaning</li> <li>➤ Dryness and warmth: dry litter should be placed on the floor to avoid dampness/wetness.</li> <li>➤ Roof should not leak/avoid spilling water on the floor to discourage dampness and wetness of the litter</li> <li>➤ Adequate space: Should be spacious for exercise, feeding and watering of calves.</li> <li>➤ Proper lighting - should be well lit as light is necessary for synthesis of vitamin D.</li> <li>➤ Proper drainage - should be constructed on a well-drained place to avoid dampness</li> <li>➤ Draught free - to prevent entry of cold winds and discourage infections like pneumonia</li> <li>➤ Proper ventilation - to allow free air circulation</li> <li>➤ Single housing - calves should be housed singly to prevent licking one another which can lead to formation of hair –balls in the rumen</li> </ul>	7 x 1	(7 marks)
	<p>(b) Disadvantages of natural mating</p> <ul style="list-style-type: none"> <li>➤ High chances of inbreeding</li> <li>➤ Possible to transmit sexual diseases</li> <li>➤ Males need extra costs of feeding and rearing</li> <li>➤ Large males can injure small females</li> <li>➤ A lot of semen is wasted</li> <li>➤ Difficult and expensive to transport a bull over long distances to serve a cow</li> <li>➤ Bulls are expensive to acquire</li> <li>➤ Most bulls are aggressive hence difficult to handle</li> </ul>	8 x 1	(8 marks)

	<p>(c) Pre-disposing factors</p> <ul style="list-style-type: none"> <li>➤ Age; older animals are more affected</li> <li>➤ Stage of lactation period; common at the beginning and end of lactation</li> <li>➤ Udder attachment; loose hanging udders and long teats are more susceptible</li> <li>➤ Incomplete milking; left milk forms culture media for bacteria</li> <li>➤ Poor sanitation; increases the multiplication of mastitis bacteria</li> <li>➤ Poor milking technique; may cause injuries to teats and weaken the sphincter muscles of the teats leading to infection</li> </ul> <p style="text-align: right;"><b>5 x 1</b></p>	<b>(5 marks)</b>
23	<p>(a) Requirements of artificial brooder</p> <ul style="list-style-type: none"> <li>➤ Litter: should be inform of wood shavings to maintain warmth and absorb moisture</li> <li>➤ Fresh air/ventilation: should have holes for ventilation on the walls to allow proper gaseous exchange</li> <li>➤ Heat source – a heat source be provided and controlled to maintain correct temperature within the broader.</li> <li>➤ Well lit – to allow chicks to see feeds and water.</li> <li>➤ Dim light is recommended as bright light blinds the chicks and enhances toe pecking</li> <li>➤ Have adequate waterers; and feeders; to allow for proper feeding and watering of chicks without overcrowding</li> <li>➤ Shape of the brooder : should be round in shape to avoid chicks overcrowding at the corners</li> <li>➤ Fresh feed and water:</li> <li>➤ Some feeds should be put on newspapers on the floor until chicks learn to feed from the feeders</li> </ul> <p style="text-align: right;"><b>9 x 1</b></p>	<b>(9 marks)</b>
	<p>(b) Operation of a four stroke cycle engine</p> <ul style="list-style-type: none"> <li>➤ Induction stroke; the piston moves down the cylinder; inlet valve opens; fresh air and petrol is drawn into the cylinder;</li> <li>➤ Compression stroke; the inlet valve closes, outlet valve closes; the piston up moves up the cylinder; this compresses air fuel mixture in the combustion chamber;</li> <li>➤ Power stroke; a spark produced by the spark plug; this causes compressed fuel mixture to light and expand; resulting in pressure that forces piston down the cylinder;</li> <li>➤ Exhaust stroke: piston moves up the cylinder; eliminating burnt fuel mixture through open exhaust valve;</li> </ul> <p style="text-align: right;"><b>11 x 1</b></p>	<b>(11 marks)</b>

24	<p>(a) Control measures of tapeworms</p> <ul style="list-style-type: none"> <li>➤ Use of anthelmintic/prophylactic drugs</li> <li>➤ Keep animal house clean and disinfected</li> <li>➤ Rotational grazing</li> <li>➤ Keep feeders and waters clean</li> <li>➤ Proper disposal of human excreta/use of latrines/toilets</li> <li>➤ Proper inspection of meat</li> <li>➤ Proper cooking of meat</li> <li>➤ Burning of infected pastures</li> </ul> <p style="text-align: right;"><b>5 x 1</b></p>	<b>(5 marks)</b>
	<p>(b) Milking equipment</p> <ul style="list-style-type: none"> <li>➤ udder cloths and towels for cleaning/drying the udder</li> <li>➤ filtering pads for straining milk</li> <li>➤ milking jelly for applying on teats to prevent cracking</li> <li>➤ warm water for washing the udder</li> <li>➤ milking pail/bucket for milking</li> <li>➤ milking churn for holding milk in storage or transportation</li> <li>➤ milking stool to sit on during milking</li> <li>➤ weighing scale for weighing milk</li> <li>➤ cooler/fridge for cooling milk</li> <li>➤ strip cup for checking mastitis</li> <li>➤ milking machine for machine milking</li> <li>➤ rope/chain for retraining the cow</li> </ul> <p style="text-align: right;"><b>10 x 1</b></p>	<b>(10 marks)</b>
	<p>(c) Life cycle of a one host tick</p> <ul style="list-style-type: none"> <li>➤ Eggs hatch larvae which climb onto the host and feed on blood;</li> <li>➤ Engorged larvae moult, nymphs emerge, feed on blood;</li> <li>➤ Engorged nymphs moult, adults emerge;</li> <li>➤ Adults feed on blood and mate;</li> <li>➤ Engorged female falls to ground and lays eggs;</li> </ul> <p style="text-align: right;"><b>5 x 1</b></p>	<b>(5 marks)</b>