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**AGRICULTURE FORM 4**

**PAPER 2**

**TRIAL 2, 2019**

**MARKING SCHEME**

1. Non-chemical methods to control ticks
* Burn infested pasture
* Hand pick and kill
* Rotational grazing
* Double fencing
* Restrict animal movement (zero grazing) (4 x ½=2mks)
1. Management practices on broody hen
* Provide drinking water adlip
* Provide balanced diet
* Dust with insecticide to control parasites
* Give hen chance to exercise ( 2 x 1=2mks)
1. Characteristics of good fish pond
* Gentle slopping
* Reliable water source
* Area with no cracks/anthills
* Clay soil which is poorly drained
* Secure from predators /thieves
* Site should be accessible (4 x ½=2mks)
1. Characteristics of beef breeds
* They are blocky
* They have strong short legs
* Bodies are well fleshed
* They have small udder
* They have thick neck ( 4 x ½=2mks)
1. Calf pen to control diseases
* Well ventilated
* Well lit
* Easy to clean
* Free from draught
* Spacious
* Lack proof
* Well drained
1. a) A dry cow theraphy – practice of applying mastitis antibiotic in teat canal in cow that is being dried off. (1mk)

b) Dry cow theraphy done last 2 months of gestation (1mk)

1. Structures to handle livestock
* Crush
* Calf pens
* Fences
* Milking shed
* Cattle shed (4 x ½=2mks)
1. Respiratory disorder
* Difficult breathing
* Coughing
* Snoring
* Sneezing
* Running nose (4 x ½=2mks)
1. Characteristics of poor layers
* Hard/stiff abdomen
* Full/well fleshed abdomen
* Small space between kneel and pelvic bone allow less than 2 fingers ( 2 x 1=2mks)
1. Mothering ability is ability of mother to care for young ones while prolificacy is ability of mother to produce many young ones at once. (Mark as a whole) ( 2 x 1=2mks)
2. Factors leading to female cow fail to conceive
* Poor nutrition
* Poor timing of services
* Infertile cow/bull ( 2 x 1=2mks)
1. Reason for culling dairy cattle
* Poor health
* Poor quality products
* Old age
* Wild temperament
* Low production (4 x ½=2mks)
1. Reasons for doing Agriculture as a discipline
* Provide skills in Agriculture and practices
* It is a career subject
* Createself-employment and self-reliance in food
* Agriculture promote environmental conservation
* Agriculture promote cohesion in diverse culture
* Agriculture promote school to take part in Agricultural practices eg young farmers

 (4 x ½=2mks)

1. Tools use to lay concrete block
* Plumb bob/plumb line
* Mason’s trowel
* Spirit level
* Wood float (4 x ½=2mks)
1. Factors pre-disposing animal to diseases
* Sex
* Colour
* Age
* Physiological conditions sickness/pregnancy/emaciation/lactating
* Physical injuries (4 x ½=2mks)

**SECTION B**

1. i) Direction of movement

A B C (1 x ½=½mk)

ii) Uses of parts;

A – Hold animals before dipping

* waiting area

B – Clean cattle hooves

* Prevent dip contamination

C – Hold livestock to wait for dip wash to drip

* Draining race (3 x 1=3mks)

iii) Precautions farmer should take for effective dipping

* Proper mixing of dip wash
* Check concentration of dip wash
* Top up dip was at correct level ( 2 x 1=2mks)

iv) Uses of roof

* Reduce evaporation of dip wash
* Prevent dilution of dip was by rain water (2 x 1=2mks)

b) Methods to control ticks

* Hand picking and kill
* Burn heavily infested pasture to kill them
* Double fencing to starve the ticks
* Use predictor to feed on ticks
* Cultivate heavily infested pasture to control ticks ( 3 x 1=3mks)
1. a) i) X – Sickle

Y – Metal float (2 x ½=1mk)

ii) Uses of tools

X – Used to harvest grass small grains and cereal crops

Y – Used for smooth finishing of concrete work (2 x 1=2mks)

iii) Maintenance of tool X

* Clean to remove dirt
* Sharpen to improve efficiency
* Apply old engine oil/paint to prevent rusting
* Fix handle tightly to reduce accidents ( 2 x 1=2mks)

b) Tools used in conjuction with

- Troca cannula

* Hand drill –Bits
* Leading stick Bull ring
* Mallet – Wood chisel (4 x ½=2mks)
1. i) D – Fallopian tube

 F – Cervix

ii) Function of;

C – Produce ova

* Produce hormones

 E – Embryo /Foetus grow ( 2 x 1=2mks)

b) Stage gilt should be mated

8 – 12 months (½mk)

**SECTION C**

1. a) Features of ideal calf pen
* Concrete/slatted floor – To maintain cleanliness
* Adequate space- Large enough for exercises and feeding 1.8m x 1.5m
* Well lit – For calf to synthesis vitamin D
* Single housing – Prevent calf from leaking each other to form hair balls on rumen
* Proper drainage – To avoid dampness
* Draught free- Windward side should be solid to prevent cold winds.
* Leak proof – To ensure the floor is dry
* Well ventilated – For free air circulation

(Any six ideal features and explanation -6mks)

b) Feeding practices

* Ensure calf suckle within 8 hours to get colostrum
* Feed calf with colostrum for first four days
* Feed calf 2-3 times a day for the first 4 weeks
* Feed correct amount of milk upto weaning.
* Introduce feeding of whole milk after 4th day
* Feed call with whole milk at regular intervals
* Provide adequate clean water 3rd week
* Introduce palatable dry feeds and concentrates 3rd week
* For any changes in feed should be done gradually to avoid disorders.
* Clean equipment’s should be used for feeding calves
* Calf should be trained to suck milk from the bucket. ( 8 x 1=8mks)

c) Uses of water

* Make body cells turgid
* Responsible for transportation in the body
* It is component of body fluidseg blood
* Help excretion of body wastes
* Help to regulate body temperatures
* Used in various bio-chemical reactions in the body
* Form animal products eg milk ( 6 x 1=6mks)
1. a) i) Cause organisms
* Bacteria /Streptococcal mastitis /Staphylococcal mastitis

ii) Pre-disposing factors

* Old aged animal
* Beginning and end of lactation
* Large pendulus /loose under /injured
* Incomplete milking
* Mechanical injuries
* Poor milking techniques (4 x 1=4mks)

 iii) Symptoms

* Swollen udder
* Pvs /blood/clot/watery milk
* Death of infected quarter
* Milk has salty taste and fine clots or flakes on fore milk ( 3 x 1=3mks)

iv) Control measures

* Use correct milking techniques
* Use strip cup to test infections
* Avoid teat injuries
* Treat open wounds on teats
* Use separate udder cloth for each animal.
* Infuse antibiotic into teat canal during drying off.
* Maintaincleanlinessand use disinfectants ( 6 x 1=6mks)

b) Factors considered while culling

* Old age- Old animals are low producers
* Low levels of performance animals with low level production should be culled.
* Unhealthy animals-Animals which fall sick frequently should be culled
* Poor mothering ability – Animals with poor instinct’s should be culled
* Body conformation- Dairy cow which is blocky should be culled
* Physical defects animals with poor physical fitness should be culled ie limping mono eyed etc
1. a) Artificial reasing of chicks up to end of breeding
* Ensure brooder corner are rounded
* Provide enough brooding space according to number
* Clean and disinfect the brooder
* Maintain proper range of temperature
* First week temperature should be 22-350C
* Maintain proper ventilation by adjusting the opening
* Provide dim light
* Provide water adlip
* Control parasites
* Sick children should be culled.
* Keep proper records
* De-beak 8-10 days before the end of brooding ( 10 x 1=10mks)

b) Types of fences

* Live fence
* Wire fence
* Barbed wire fence
* Plain wire fence
* Wooden wire fence ( 3 x 1-3mks)

c) [Procedure of establishing wire fence

* Clear fence line
* Measure and mark points 4 -6cm
* Dig holes – 60cm and 75-90cm for corner posts
* Place treated posts in upright position
* Mix concrete 1:3:5 into the hole and firm the base
* Nail barbed wire into the post
* Fix the lower strand first which is used to guide the fixing of next wires. (7 x 1=7mks)