**AGRICULTURE**

**FORM 4 END TERM PAPER 2**

**MARKING SCHEME**

SECTION A (30MKS)

*Answer all questions in this section*

1. Give four methods of administering vaccines in poultry (2mks)

* By injections
* Orally through the mouth/ drinking water
* Through the cloaca
* By inhalation through the nostrils

1. State four factors that influence that influencing the choice of poultry rearing system (2mks)

* Availability of land for rearing
* Topography of land to facilitate easy drainage
* Availability of labour
* Availability of appropriate equipment
* Security
* Knowledge of the farm

1. Give four characteristics of a good calf pen (2mks)

* Spacious/provide adequate space
* Well ventilated
* Easy to clean
* Well lit
* Leak proof
* Allow single calf housing at a time
* Well drained floor

1. State two causes of egg eating in birds (2mks)

* Presence of broken or soft shelled eggs
* Bright light in the nests allowing birds to see eggs
* Idleness
* Inadequate nests forcing birds to lay on the floor
* Lack of minerals

1. State four factors influencing the amount of water consumed by an animal per day (2mks)

* Physiological status of the animal
* Level of production
* Environmental temp
* Age of animal

1. Give four reasons for treating timber during construction of farm buildings (2mks)

* Prevent attack by fungi/rotting
* Control pest attack
* Make timber strong and resist weather conditions
* Prevent warping

1. Give two reasons for flushing in sheep (1mk)

* Increasing conception rate
* Facilitate implantation of the zygote
* Increase lambing percentage
* Increase twinning /multiple births

1. Give two factors that a farmer should consider while grading eggs for marketing (1mk)

* Shell color
* Size of the egg
* Shape of the egg
* Cleanliness of the shell
* Shell quality/ soft shell/broken shell/rough

1. Give two reasons for culling a breeding boar ( 1mk)

* Old age
* Loss of libido
* Prevent inbreeding
* Poor health/disease infection/chronic sickness
* Poor temperament
* Injuries/deformities

1. List four methods of preserving fish ( 2mks)

* Freezing
* Salting
* Sun-drying
* Smoking
* canning

1. Give four reasons of breeding in cattle (2mks)

* Increase level of production i.e milk
* To improve disease resistance in the animal
* To develop animals with a high growth rate
* To develop animals with a high heat tolerance
* To develop animals that mature early

1. State four signs of liver fluke infestation in cattle (2mks)

* Loss of weight and emaciation
* Pot-bellied/watery swellings on the body of the affected animal
* Animal suffers from indigestion
* Anaemic condition
* Dullness and animal appear depressed
* Swollen and painful abdomen
* Recumbency precedes death

1. Name any four products of milk (2mks)

* Butter
* Ghee
* Ultra heated milk(UHT)
* Skim milk
* Cream
* Curd
* Cheese
* Powdered milk
* yoghurt

1. State three characteristics of clean and high quality milk (11/2 mks)

* Free from diseases causing organisms
* Has no hair, dust or dirt
* It is of high keeping quality
* Has good flavor
* Its chemical composition is within the expected standards

1. Give three factors that may make birds lay eggs on the floor in a deep litter (1 1/2MKS)

* Inadequate nests
* Too high/too low laying nests
* Nests are brightly lit
* Too small laying nests that make the birds squeeze in them

1. Give three factors that affect the quality of honey (1 1/2mks)

* Type of plants from which the nectar was collected
* Maturity stage of honey at the time of harvesting
* Method of harvesting
* Method of processing

1. State any four signs of furrowing observed in sows (2mks)

* Sow becomes restless
* Vulva turns red and swells
* Udder becomes full with a milky fluid on teats
* The sow starts to build a nest by collecting some beddings at one corner of the pen

1. Outline three ways of controlling ticks in livestock production (1 ½ mks)

* Burning the infected parts
* Interfering with or altering the ticks environment
* Fencing off the pasture land and farm
* Starving the ticks to death
* Hand picking the ticks from the livestock and killing them.

**SECTION B (20 Marks)**

*Answer all questions in this section*

1. Below is a diagram power transmission system of a tractor engine. Study it carefully and answer the questions that follow.

a) Name the Parts labeled E, F, G and H (2mks)

E-Differential

F- Fly wheel

G- Piston

H-Crankshaft

b) State the functions of E and H (2mks)

E- Change the direction of drive to right angles to power the wheels

H-Rotate and help the piston to move up and down

1. The diagrams below show some farm tools, study them and answer the questions that follow.
2. Name the tools (2MKS)

A-open end spanner

B-ring spanner

C- Adjustable spanner

W- Burdizzo

1. State the functional differences between tools K and W (1mk)

* Elastrator is used for expanding rubbering to fix on scrotum whereas burdizzo is used to break spermatic cords in castration of bulls

1. What advantage does C have over A and B (1mk)

* Tool C can be adjusted to fit any size of a nut but tool A and B can only fit and adjust specific sized nut

1. State one common maintenance practice carried out on tool C and W (1mk)

* Oil/lubricate the moving parts

1. The illustrations below show the behavior of chicks at different temperatures in the brooder.
2. Explain the temperature conditions in each of the four diagrams A,B,C,D.(4mks)

A-chicks are crowding around the heat source because the temperatures are low

B-chicks have moved far away from the heat source because the temperatures are very high

C-chicks are evenly distributed within the brooder because the temperature is favorable

D-chicks drift/move to one side because the temperatures on the other side of the brooder are unfavorable possibly due to effect of draught on that side

1. State any four requirements of a good brooder (2mks)

* Should be aerated and warm
* Should have enough feed and water troughs
* Spacious enough
* Clean and well disinfected
* It should be draught free
* Ensure the corners are rounded to prevent overcrowding
* Spread with newspapers
* Provided with dim lights

1. Give reasons why dim or dull lights are recommended in brooder (1mk)

* To discourage toe pecking
* To discourage blindness of chicks

1. Below is a diagram representing a farm structure used in poultry production.
2. i)Identify the system represented by the above structure (1mk)

* fold system

ii) List down four demerits of the above system (2mks)

* fewer birds kept
* constant relocation
* easily portable encouraging theft
* constant lubrication of wheels
* no space for exercise

iii) State the importance of the part labeled A and B (1MK)

A-ventilation

-lighting

-sunbathing

B-shelter from rain

-shelter from hot weather

-shelter from strong winds

**SECTION C (40MKS)**

1. a) Describe the procedure in artificial or bucket feeding in rearing of calves (5mks)

* Put clean warm milk in a bucket
* Place the index finger in the calf’s mouth
* Lower the finger and calf’s head slowly till submerged in milk
* Let the calf sucker the finger in milk and suckle the milk at the same time
* Slowly withdraw the finger when the calf is suckling
* Repeat the steps till the calf learns to suckle on its own

1. Describe the components of a mouldboard plough (5mks)

* share-to cut soil slices
* mouldboard- to turn/invert furrow slices
* disc coulter- cutting furrow slice separating it from unploughed land
* land slide-counteracts side pressure exerted by furrow slices
* depth wheel-controls depth of ploughing
* shin-attach the share, mouldboard and land slide
* beam-to attach all other parts of the plough

1. Describe the essentials of clean milk production(5mks)

* Healthy milking herd
* Clean milking cows
* Clean and healthy milk man
* Clean milking shed
* Cleaning milking utensils
* Milk filtering and cool storage
* Avoid flavours in milk

1. Explain the procedure in establishment of foundation in farm buildings (5mks)

* Clear the vegetation
* Level the site if sloppy
* Measure the width of the foundation by pegging
* Dig to remove all the loose soil to the basement rock
* Place concrete of 1:2:4 or 1:3:6 at the flow
* Compact the concrete
* Lay the foundation stones and construct up to 15cm above the ground

1. a) State five reasons why bees swarm (5mks)

* shortage of food and water in their surrounding
* outbreak of diseases and parasites
* damage of brood combs
* lack of adequate ventilation
* dampness and bad smells
* overcrowding
* sick or infertile queen

b) Describe five maintenance practices carried out on a tractor battery (5mks)

* the level of electrolyte should be kept just above the plate by topping with distilled water
* corroded terminals should be scrapped clean and smeared with grease
* the battery should be tightly fixed in a box to avoid spillage and damage
* the battery should be charged regularly and periodically
* in case of long storage the battery contents should be emptied and battery be kept upside down
* The generator fan belt should always be functional to ensure the battery is always charged.

1. State signs shown by a cow on heat (5mks)

* Restlessness
* Mounting others and when mounted on it stands still
* A slight rise in temperature
* Slight drop in milk yield in lactating cows
* Vulva swells and become reddish
* Clear or slimy mucus from the vagina
* Bellowing or mooing frequently

1. Explain five methods of tick control (5mks)

Natural/biological method

* Self licking by the animal dislodge the ticks from the body
* Burning the infested pastures

With lime

* Fencing off the pasture land farm; if only combined with the use of acaricides
* Starving the ticks to death
* Hand picking of ticks from livestock and killing them

1. a) State five qualities of eggs for incubation (5mks)

* they should be fertilized
* they should be of medium size 55-60 grams
* they should have smooth shell
* be free from any cracks in the shells
* clean to ensure that pores are open
* should be free from abnormalities such as blood spots, meat spots or double Yolk
* eggs should be fresh that is collected within one week
* eggs selected for incubation should not be stored for more than 8-10 days

b) Describe the management carried out in artificial egg incubator (5mks)

* turn the egg about 180 degrees every 6-8 hours except for the first 24 hrs and the last 3 days they should not be turned
* Do egg candling on the 5th -7th day to confirm for presence of a developing embryo. Any egg found infertile should be removed
* any egg found broken should be removed
* clean and disinfect or fumigate the incubator before putting eggs
* add water as required to maintain within the set range i.e. 37.5-39.4 degrees Celsius
* ensure circulation of fresh air within the incubator

c) Describe the preparations you would make in brooder before the arrival of day old chicks and their care for the first two days (10 mks)

* brooder should be ready 2-3 days before chicks arrive
* all equipments should be functioning
* provide enough feed troughs and water troughs
* spread newspaper on the floor of the brooder
* spread some feed on the newspaper and some in feed troughs
* remove newspaper when chicks learn to eat from the trough
* the brooder and brooder equipment should be cleaned and disinfected before arrival of chicks
* ventilate the brooder to ensure free air circulation
* disinfect the brooder to control external parasites
* ensure the brooder is spacious
* the brooder should be draught free
* ensure the corners of the brooder are rounded to prevent chicks from crowding around corners
* Provide dim lighting to discourage toe pecking and blindness of chicks.