**BSJE 2021**

**AGRICULTURE**

**Paper 2**

**443/2**

**MARKING SCHEME**

**SECTION** **A (30MKS)**

1. **State two control measures for fowl pox disease in poultry. (2mrks)**

* Observe hygiene in poultry house
* Regular vaccination
* Slaughter and properly dispose carcass of affected birds – rej. culling, killing atone.

1. **Give two reasons for carrying out maintenance practices on a mower. (2mrks)**

* For safety of the user/operator
* Ensure efficiency of operations
* Increases durability
* Reduces costs on repairs and replacements
* Avoid damage to the mower.

1. **Give two limitations of using solar power on the farm. (2mrks)**

* Solar trapping devices are expensive
* Power supply/trapping fluctuates depending on weather conditions
* Solar trapping is limited to day light
* Requires skilled labour to handle the devices

1. **Name two methods used in selection of breeding stock in livestock production. (2mrks)**

* Progeny testing
* Mass selection
* Contemporary comparison

1. State **four** methods of controlling roundworms in livestock. (2mrks)

* Use of antihelmintics/Drenching
* Rotational grazing
* Burning of pasture
* Apply appropriate drug
* Proper disposal of faeces/hygiene

1. Name the type of breed into which each of the following breeds of cattle are classified.
2. **Aberdeen Angus.** (½mrk)

* Beef cattle breed

1. **Guernsey.** (½mrk)

* Dairy cattle breed

1. **Sahiwal.** (½mrk)

* Dual purpose breed

1. **Redpoll.**  (½mrk)

* Dual purpose breed

2. **Give two ways in which proper nutrition help to control livestock diseases. (2mrks)**

* Prevents nutrient deficiency diseases.
* Ensures resistance against disease infection.

1. **Name two nutritional diseases in cattle.** (2mrks)

* Milk fever
* Bloat

2. **State two advantages of housing calves singly in cattle management.** (1mrk)

* To prevent the calf from licking each other.
* To control spread of worms and skin infection.

1. **State four advantages of natural calf rearing. (2mrks)**

* Calf takes milk at body temperature.
* Milk is free from contamination
* It prevents scouring in calves.
* Milk is provided ad libitum.

1. State **four** reasons for dehorning in cattle management. (2mrks)

* To prevent cattle from inflicting injuries
* To make animal docile and easy to handle
* For easy transportation and feeding
* To prevent destruction of farm structures

1. **Name two methods of harvesting fish in fish pond. (1mrk)**

* Hook and line
* Use of nets
* Skets
* Spears /hapoon
* Draining water in the pond

2. **State four causes of egg eating in flock of layers. (2mrks)**

* Presence of broken or soft shelled eggs
* Bright light in the nest
* Idleness
* Inadequate laying nests
* Mineral deficiency
* Greediness of the birds.

1. **State two advantages of fold system on poultry rearing. (1mrk)**

* Manure is evenly distributed
* Less feeds is used
* Reduces built up of parasites and diseases
* Birds are protected from diseases

1. **Name four parts of farm building that can be reinforced using concrete. (2mrks)**

* Walls
* Floor/ Slab
* Pillars
* Lintel

1. **State function of the following farm tools and equipment**.
2. **Pipe cutter**  (1mrk)

* Cutting PVC /plastic pipes

1. **Wire strainer**  (1mrk)

* Tightening wires during fencing

1. **State four ways in which vaccine can be administered to livestock. (2mrks)**

* By injections
* Orally through the mouth
* By inhalation, through nose
* Through the cloaca

1. **State two disadvantages of using plunge dips in tick control. (1mrk)**

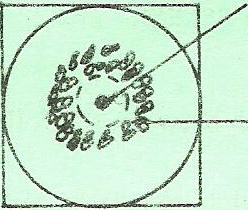
* High initial construction cost (high capital)
* Dangerous for young and pregnant animals and the sick
* Requires a lot of water
* Poisoning by swallowed dip wash

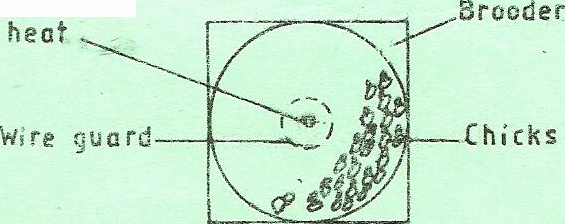
1. **State two features on the animal which may predispose it to livestock diseases.**

**(1mrk)**

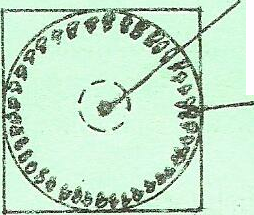
* Species of the animal
* Breed of the animal
* Age of the animal
* Sex of the animal
* The colour of the animal

1. **The following illustrations show the behavior of chicks in a brooder. Study them carefully and answer the questions that follow.**





**A B** Source of **heat**



**C**  Source of heat

1. **Explain the cause of behavior observed in chicks for each of the illustrations labeled A, B and C. (3marks)**

* **A-** Presence of draught makes the chicks to crowd on one side of the brooder.
* **B-** Cold/inadequate heat makes the chicks to crowd around the heat source.
* **C**- High/Excess heat makes the chicks to move away from the heat source.

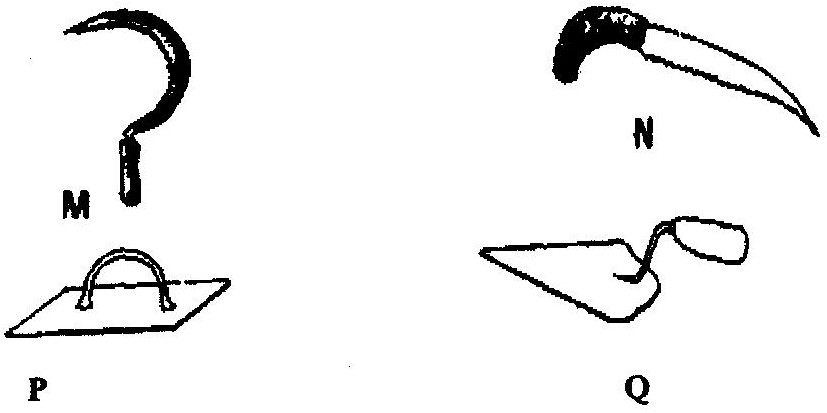
1. **Give a reason for making the brooder wail round in shape. (1 mark)**

* To discourage overcrowding of chicks at the corners to avoid suffocation.

1. **State one way of correcting the behavior of chicks shown in an above. (1mrk)**

* Ventilation on the side where the draught is coming should be closed.

1. **Diagrams M, N, P and Q represents some farm tools.**



1. **Identify the tools; M, N, P and Q. (2mrks)**

* M – Sickle
* N – Pruning saw
* P – Float
* Q – Garden trowel

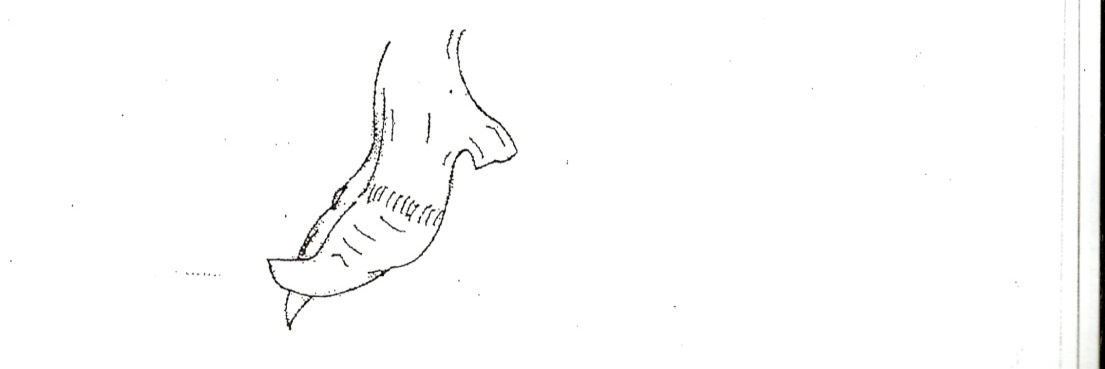
1. **Give the use of each of the tools named above. (2mrks)**

* M – Harvesting rice/grasses
* N – Pruning/cutting stems/branches in crops e.g. coffee citrus.
* P – Spreading screed on concrete floors/wall
* Q – Transplanting seedlings

1. **State two maintenance practices that should be carried out on tool M (1mrk)**

* Replacing broken handles

1. **The diagram below illustrate a hoof of a sheep .Study it carefully and answer the questions that follow.**



1. **Name the routine management practice that should be carried out on the hoof illustrated above.** **(1 mark)**

* Hoof trimming

1. **State two reasons for carrying out the management practice in (a) above. (2 marks)**

* To prevent lameness/ difficulty in walking
* To control foot rot
* To ease mating

1. **Name the two tools used to carry out the routine management practice named in (a) above. (2mrks)**

* Hoof trimming knife
* Hoof cutter
* Hoof rasp

1. **A farmer wanted to prepare a 200kg of calf rearing ration containing 20% DCP. Using the Pearson Square Method, calculate the amount of Maize containing 10% DCP and Sunflower containing 35% DCP the farmer would need to prepare the ration. (Show your working) (5 marks)**

2. **State five indicators that can be observed on a goat to confirm sickness. (5mrks)**

* **By checking the appetite and feeding** - if low or excessive it indicates that the goat is sick
* **Defaecation** - inconsistency in texture, colour, smell, frequency and posture, presence of arasite segments, egg, larvae or blood
* **Urination** - irregular posture, colour and and frequency;
* **Change in temperature above or below the normal range;**
* **Respiratory rate** - irregular respiration shown by non-rhythmic inspiration and expiration indicates ill health.
* **Pulse rate** - Abnormal pulse rate under normal physiological status indicates ill- health.
* **Production level** - Loss of weight, emaciation and reduced production rate. Abnormal discharges
* **Posture** - while standing or lying.
* **Behaviour** eg. abnormal sound, aggression, excitement.
* **Appearance** - eg. dullness, restlessness, pot belly, bloated.
* **Movement** eg. gait, eg, standing or limping when walking.
* **Mucuors membranes** (abnormal) eg. bright red colour, yellowish, blueish depending on disease.
* **Skin/animal coat** - (abnormal) starring hair, coat, sores/wounds on skin.

1. **Describe eight physical characteristics of a poor layer in a flock of hens. (8mrks)**

* **Combs and wattles** - small/shrivelled/shrunken. Dry scaly and place.
* **Eyes** - dull and pale yellow.
* **Beak** - yellowish in colour.
* **Abdomen/breast** - hard and full
* **Vent** - round, dry and less active
* **Space between kee and pelvic bone** - small and fits only one or two fingers
* **Plumage** - preened & glossy (smooth) beautiful
* **Moulting** - early moulting
* **Shanks/feet** - Yellowish in colour
* **Broodiness** - Is common/early moulting
* **Temperament** - easy and dull

1. **Give seven harmful effects of liver fluke in sheep rearing. (7mrks)**

* Digestive upsets due to blocking of bile duct.
* Emaciation/recumbency leading to death
* Anaemia due to destruction-of-liver tissues
* Swollen lower jaw/Oedema in the jaws.
* Swollen abdomen.
* Destruction of liver tissues /haemorrhage

2. **Outline five characteristics of a clean milk. (5mrks)**

* Free from disease causing micro-organisms/pathogens
* Free from hair, dirt or dust.
* Free from bad odours and tastes/has good flavours.
* Chemical composition within expected standards.

1. **Describe Brucellosis disease under the following sub-headings.**
2. **Causal organism. (1mrk)**

* Brucella arbortus; bacteria

1. **Signs of attack. (3mrks)**

* Premature birth
* Retained placenta if abortion occurs
* Infertility of the cow/low libido in bulls
* A yellowish brown,slimy, odourless discharge from the vulva.

1. **Control measures. (3mrks)**

* Use of artificial insemination
* Slaughtering affected animal
* Attendant should avoid contact with aborted foetus
* Blood test should be carried out for all breeding animal
* Hygiene in the animals’ house

1. **State eight advantages of Artificial Insemination (8mrks)**

* Economical use of semen
* It control transmission of breeding diseases
* It prevent large bulls from injuring small cows
* It reduces expenses of keeping a male animal
* Semen can be stored for long
* It helps to control inbreeding
* It makes research work easier
* It eliminate the threat of keeping the bull
* A small scale farmer who cannot afford to buy superior bull can have the cows served at low low cost
* Sires that are unable to serve cows due to heavy weight or injury can produce semen to serve cows

2. **Describe five structural requirement of a good calf pen.** (10mrks)

* Should be clean and easy to clean
* Be warm and dry
* Have adequate space to allow exercise and feeding
* Should be properly lit and allow sunlight for vitamin D
* Have proper drainage to avoid dampness
* Draught free to prevent chilling
* Be well ventilated to allow fresh air

1. **Describe the cycle of a four stroke petrol engine.** (10mrks)

**Induction**

* Piston move downward
* Volume increases while pressure reduces
* Inlet valve opens while exhaust valve remains closed
* Air- to fuel mixture is sacked into the cylinder

**Compression**

* Inlet valves closes
* Piston moves up the cylinder
* Exhaust valve remains closed
* Air – to fuel mixture is compressed
* Pressure increases while volume decreases

**Power/ignition**

* Inlet and exhaust valve remains closed
* Pressure increases while volume decreases
* Spark is produced to ignite the fuel air mixture
* Piston moves down the cylinder

**Exhaust**

* Exhaust valves opens
* Piston moves up the cylinder
* Burnt air fuel mixture is expelled