**MARKING SCHEME**

**443/2**

**AGRICULTURE**

**Paper 2(Theory)**

**MARCH/APRIL 2020**

**Time: 2 Hours**

**ARISE AND SHINE TRIAL 1 EXAM**

**MARCH/APRIL-2020**

**SECTION A [30 MARKS]**

***Answer All The Questions in The Spaces Provided.***

1. **Name four exotic beef cattle breeds most reared in Kenya. [2 marks]**

* Aberdeen Augus
* Charolaise
* Gallaway
* Hereford

1. **If a sow was successfully served on 27th September 2019, state the date she is likely to have furrowed. [1mark]**

* Between 20 Jan -22Jan 2020
* (Any date within the range is accepted)

1. **Give two importance of docking in rams. [1 mark]**

* For fat distribution over the body
* Control blowfly infestation
* Rej.facilitate mating (2x1/2=1mark)

1. **Mention four causes of stress in a flock of Birds (2 marks)**
   * Sudden change in routine
   * Diseases and parasite infestation
   * Lack of food and water
   * Strangers and predators in the birds house
   * Poor handling
   * Overcrowding of birds
   * Climatic changes

(Any 4x1/2 = 2maks)

1. **Name two nutritional disease of cattle. [1 marks]**

* Milk fever
* Bloat

2x ½ = 1mks

1. **State four methods of preserving fish. [2 marks]**

* Freezing
* Salting
* Smoking
* Sun-drying

4 x ½ = 2mks

1. **State four disadvantages of free range system of poultry rearing. (2 marks)**

* Require a lot of land which may not be available
* Eggs get lost in the runs
* Difficult to control breeding
* Birds can cause damage to crops

1. **State four advantages of a Kenya top bar hive. [2 marks]**

* Easy to inspect the honey
* Easy to handle during harvesting
* Honey and brood cannot be mixed when harvesting
* Fast for the bees to attach honey combs onto the bar
* Clean honey can be harvested

2 x ½ = 2mks

1. **Name two diseases that affect female animals only. [1 mark]**

(i). Mastitis

(ii).Milk fever

(iii).Trichomaniasis / vaginitis

2 x ½ = 1mk

1. **Name four tick borne diseases [2 marks]**

* East coast fever
* Anaplasmosis/gall sickness
* Red water
* Heart water

4 x ½ = 2mks

1. **State four ways of vaccinating livestock. [2 marks]**

* Through injection
* Orally/through the mouth
* Inhalation/through nose
* Through eyes in poultry
* Through cloaca in poultry

1. x ½ = 2mks
2. **Name three notifiable livestock diseases in Kenya.**  [1 ½ marks] Anthrax

* **Rinderpest**
* New castle
* Foot and mouth diseases

3 x ½ = 1 ½ mks

1. **State four ways of identifying livestock. [2 marks]**

* Branding
* Ear notching
* Ear tagging
* Tattooing
* Neck strap

4x1/2 = 2mks

1. **List four safety precautions taken into consideration when working with farm tools.**

[2 marks]

* Use the tool for the correct purpose
* Handle the tool properly when working
* Use protective devices to avoid accidents
* Maintain and service the tool regularly
* Keep the tools away/safely when not in use

4 x ½ =2mks

**15. State three causes of piglet mortality. [1 ½ mark]**

* Overlaying by the mother
* Poor feeding
* Anaemia
* Worm infestation
* Chilling

3 x ½ =1 ½

1. **Give four characteristics of roughages feeds. (2 marks)**

* Bulky
* Low energy/protein/nutrients
* Low digestibility
* Contain high fibre content
* They are plant origin

4 x ½ = 2mks

1. **Give four reasons why camels are suited to living in arid areas. (2 marks)**

* Can stay for a long period without water
* Can withstand extreme temperature
* Able to eat dry feeds
* Feet have large surface area that enable them to walk on sand without sinking
* Has thick hide that insulate against radiant heat
* Has hump source of metabolic water

4 x ½ =2mks

1. **Name the parental breeds of the dorper. (1 mark)**

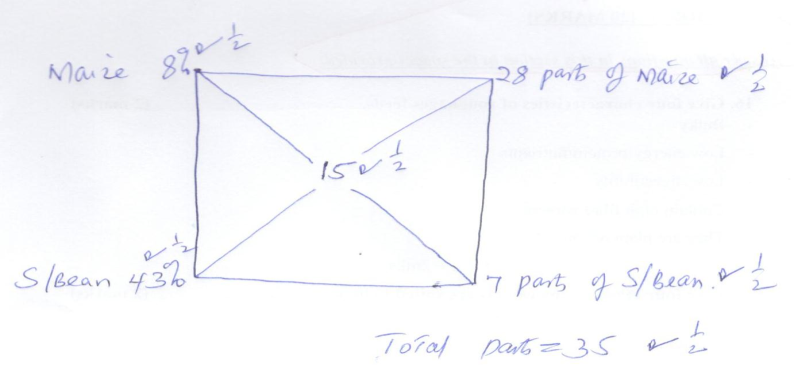
* Dorset Horn
* Blackhead Persian

**2 x ½ = 1mk**

**SECTION B [20 MARKS]**

***Answer all questions in this section in the spaces provided.***

1. **A poultry framer has maize containing 8% DCP and Soya beans containing 43% DCP. If the farmer wants to make 100kg of a feed, using the person’s method calculate the proportions in which the two ingredients would have to be mixed to make a feedstuff containing 15% DCP. (Show your working). (5 marks)**



(i). kg of maize required

28/35 x 100kg √1= 80kg maize

(ii). Kg of S.Bean required

7/35 x 100kg = 20kg S.beans√1

5marks

**20. a). Give the reason why part D is usually deeper than the rest of the pond.(1 mark)**

* To provide a breeding place

**(b). Name the part labelled A, B and C. (1 ½ mark)**

A-Spillway

B-draining channel/pipe

C-Inlet channel

**(c). State three maintenance practices that should be carried out on the fish pond.(1 ½ mark)**

* Prevent leakage by sealing crack on walls
* Plant grass on the walls to avoid soil erosion
* Clear vegetation round the fish pond
* Drain and replace water as recommended
* Maintain a fence around the pond

**(d). Give two reason why a fence should be constructed around the fish pond. (1 marks)**

* To control fish predators
* Prevent theft of fish

**21. The following illustration represent a certain practice carried out in sheep management. Study the illustration and answer the questions that follow.**

**(a). Identify the practice. (1 mark)**

* Wool shearing

**(b). Name the tool being used in carrying out the practice. (1 mark)**

* Wool shears rej. Wool share/scissor

**(c). State two precautions that should be take when carrying out this practice. (2 marks)**

(i). Shearing should be done on a clean floor free from grease and vegetable oils

(ii). Shearing should be done during a dry weather season to avoid cold

(iii). Care should be taken not to cut the skin, testicles, udder, vulva and penis during shearing

**(d). Name a breed of sheep reared for fine wool production (1 mark)**

- Merino sheep

**22. The following is diagram of an egg. Study if carefully and answer the questions that follow.**

**(a). Name the part labelled B,C,D and F. (2 marks)**

**B-**Inner shell membrane

**C-**Outer shell membrane

**D-**Albumen/egg white

**F-**Chalazae

**(b). State two qualities of the part labelled A that should be considered when selecting egg for incubation. (2 marks)**

* Texture/smoothness of the shell
* Absence of cracks on the shell
* Cleanliness/absence of blood stains
* Oval in shape
* **(c). What is the function of the part labelled E in a fertilized egg? (1 mark) -** Provide nutrients for the developing embryo/chick

**SECTION C. (40 MARKS)**

***Answer any Two questions in this section.***

**23. (a). Describe the feeding of bees under bee keeping. (5 marks)**

* Feed bees on sugar made into syrup with water at a ratio of 1:1 by volume
* Jar containing syrup should be cleaned regularly to avoid fermentation of sugar
* Provided plenty of clean water
* Water container should be placed near the hive
* Pieces of sticks or bark should be floated on the water to prevent bees from drowning

(Any 5 x 1=5mks)

**(b). Describe the management practices that a farmer should carry out to improve mil production in a low yielding herd of dairy cattle. (15 marks)**

* Select good animal on the basis of high yield.
* Select animal with good health
* Select animals with high fertility
* Select animal with good conformation
* Cull poor producers
* Use superior bulls to serve cows
* Mate heifers when fully mature in terms of age/body weight
* Keep animals healthy by routine vaccination
* Control external parasites by spraying using appropriate pesticides
* Treat sick animal appropriately
* Improve sanitation and cleanliness in the farm
* Give adequate feeds
* Give balanced diet
* Provided minerals and vitamins
* Provide proper housing avoid overcrowding
* Milk at regular intervals
* Observe proper milk technique

**(Any 15 pts x 1mk=15mks**

**24. (a). Outline the procedure followed when hand spraying cattle to ensure effective us of accaricide to control ticks. (10 marks)**

(i). Spray the entire backline from the shoulder to the tail head

(ii). Spray the sides in a zigzag motion to trap and retain the wash from the backline

(iii). Spray the belly with a nozzle facing upwards

(iv). Spray the scrotum/udder and the hind flanks carefully.

(v). Spray both hind legs upto and including the heels.

(vi). Spray under the tail head and around the anus/vulva

(vii). Hold the tail switch on the rump and spray it thoroughly to ensure complete wetting

(viii) Spray the neck and the forelegs from the flanks to the heels

(ix). Spray the head and face making sure the bases of the horns are thoroughly wetted

(x). Spray the inside of the ears

(10x1=10mks)

NB:(The order of activities must be sequential to score)

**(b). Outline five differences between exotic cattle breeds and indigenous cattle breed. (5 marks)**

|  |  |
| --- | --- |
| **Exotic breeds** | **Indigenous cattle breeds** |
| * Have no humps * Mature early * Produce a lot of milk * Cannot walk long distances * Short calving intervals * Have long lactation periods | Have the humps √1  Mature late √1  Produce little milk √1  Can walk long distance √1  Long calving intervals√1  Shorter lactation periods √1 |

(Any 5 x1 m=5mks) (Only complete/contrasted point is awarded full mark no half)

**(c). Outline five qualities of a good grain store (5 mark)**

* Have leak proof roof
* Vermin proof
* Well ventilated
* Easy to lad and offload
* Spacious
* Easy to clean

(Any 5x1=5mks)

**25. (a). Describe the role of the various components of a balanced diet in livestock nutrition.**

**(10 marks)**

(i). Carbohydrates:- Main source of energy √1

* Are respired to release energy √1

- Store in the body as fats /oils√1

(ii). Proteins – for growth, repair, production of antibody enzymes, hormones and products

(iii). Vitamins- Protection against infection√1

- Promote growth, bone formation, muscular activity, and organic catalysts√1

(iv). Minerals-for string bone formation, milk √1

Synthesis, formation of hard shelled egg prevent mineral deficiency diseases,

promote growth

(v). Water: For biochemical body reaction transportation of food nutrients

- Cooling he body√1

- Components of body fluids/part of products

- Excretion of waste √1

- Maintain cell turgid√1

(Explanation of a food component earn two marks)

(5x2=10mks)

**(b). Give five reasons of keeping livestock healthy. (5 marks)**

* Good health ensures a long economic and productive life
* Healthy animals give maximum production/high performance
* Healthy animas grow fast and reach maturity early
* Healthy animals produce quality products which fetch good prices
* Healthy animals do not spread diseases to other animals/human beings
* Healthy animals are economical to keep/reduced production costs

(5x1=5marks)

**(c). Outline five predisposing factors of mastitis in lactating cows. (5 marks)**

* Age of the animal
* Stage of lactation
* Injuries on the udder
* Incomplete milking
* Poor milking technique
* Level of production
* Pendulous udder.

(5x1mk=5mks)