**MARKING SCHEME**

**ARISE AND SHINE TRIAL 1 EXAM 2023**

**AGRICULTURE FORM 4 P2 2023**

1. Mention four control measures undertaken to control brucellosis in cattle. [2 marks]
2. Vaccination
3. Use of healthy semen/bulls/cow/Artificial insemination
4. Cull destroy/kill carriers
5. Proper disposal of foetus or carcasses. (4x1/2 4mks
6. State four breeds of rabbits [2 mark]
7. Chinchilla
8. California white
9. New Zealand white
10. Ear lop
11. Martensable
12. Flemish Giant

(Any 4 x ½ = 2mks)

1. List any two physiological condition s of livestock that may be assessed to determine the health status of the animal. [1 ½ mark]
2. Defecation
3. Urination
4. Body temperature
5. Respiration rate
6. Pulse rate
7. Production level

(Any 4 x ½ = 2marks)

1. State two ways of preventing predation in a fish pond. (1 mark)
2. Fencing with wire mesh
3. Placing sieve at inlet/screen

(Any2 x ½ = 1mk)

1. State four factors considered when selecting eggs for sale [2 marks]
2. Clean eggs
3. Medium size eggs
4. Brown shelled eggs
5. Good candling quality
6. Oval in shape
7. Smooth shelled
8. Without cracks

(Any2 x 1 = 2mks)

1. State four observations on behavior of chicks under excess heat in the brooder that a farmer may notice. [2 marks]
2. Chicks move away from heat source.
3. Panting or opening beaks wide
4. Opening of wings or spreading wings
5. Drinking water excessively
6. Chicks lie flat on their bellies

(Any 4 x ½ = 2mks)

1. State four advantages of embryo transplant (2 mark)
2. Stimulate milk production
3. Highly productive female can spread over and benefit many farmers
4. Easier to transport than whole animal
5. Embryos can be stored for long time
6. Possible to implant embryo from high quality female

(Any 4 x1/2 =2mks)

1. Differentiate between mothering ability and prolificacy [2 marks]
* Mothering ability is the ability of the mother/Dam to take care of offspring until weaning while prolificacy is ability of female to give birth to many offspring at some time.
1. Name four practices carried out in the crush (2 marks)
2. Dehorning
3. Hoof trimming
4. Vaccination/injection
5. A.I
6. Pregnancy diagnosis
7. Spraying
8. Castration

(Any 4 x ½ = 2mks)

1. Give four reasons why young rams should be docked. [2 marks]
2. Allowing even fat distribution the body.
3. Prevent accumulation of dirt which would encourage blowfly infestation
4. Minimize fouling of wool with feaces
5. Reduce foul smell

(Any 4 x ½ = 2mks)

1. Give any two methods of selection done on livestock [1 mark]

Mass selection

Contemporary comparison

Progeny testing

(Any 2 x ½ =1mk)

1. List four mechanical methods of tick control in a farm [2 marks]
2. Hand picking and killing it.
3. Ploughing infested pastures
4. Burning infested pastures
5. Rotational grazing
6. Fencing of pastures

(Any 4 x ½ = 2mks)

1. State two factors that determine the quality of honey [1 mark]
2. Type of plant from which nectar was obtained
3. Maturity stage of honey at harvesting time
4. Method of harvesting
5. Method of processing

(Any 2 x ½ = 1mk)

1. Give the terms used to describe the following

(i) Mature male pig – boar ( ½ )

(ii) Sterilized birds- capon (1/2 mark)

(iii) Mature female goat - Doe/nanny (1/2 mark)

15. State four qualities considered when selecting a heifer for dairy purposes [2 marks]

1. Body conformation/Triangular shaped/wedge shaped
2. From high milk yielding family.
3. Well adapted to the environment
4. Free from physical defects

(Any 4 x ½ =2mks)

1. Give one role of a damp poof course in the foundation of a farm building. (1 mark)
2. Prevents moisture from rising up the wall
3. Prevents termites from climbing up the wall

(Any 1 x =1mk)

1. State any 4 causes of cannibalism in poultry production. (2 marks)
2. Presence of external parasite
3. Overcrowding
4. Bright light in the house
5. Prolapse
6. Introduction of new bird in the flock
7. Mineral deficiency

(Any 4 x ½ = 2mks)

1. Name the breed of camel with two humps (1/2 marks)
* Bactrian
1. Give the functional difference between a ripsaw and a tenon saw. (1 mark)
* Rip saw is used for cutting along the grain of wood while tenon saw is used for fine sawing and small cutting work e.g joints
1. Define the term steaming up as used in livestock production (1 mark)
* Steaming up is the feeding of late pregnant cows with high plane of nutrition six to eight weeks before calving in order to promote maximum milk production during the lactation period

(Any 1 x 1 =1mk)

**SECTION B [20 MARKS]**

***Answer all questions in this section***

1. Below is an activity carried out in poultry production. Study it carefully then answer the questions that follow
2. Identify the practice being carried out Egg candling(1 mark)
3. State three defects that can be detected by this practice. (3 marks)
* Very porous shell
* Blood spot
* Meat spot
* Double yolk
* Broken shell
* Cracks on shell

(Any 3 x1=3mks)

c). State one disadvantage of artificial incubation. (1 mark)

* High initial capital /expensive to buy incubator
* Labour demanding
* Requires high skills
* High risk of damaging all eggs

(Any 1 x1=1mk)

22. The diagram below represents livestock parasites

1. Identify the parasites Y and Z (1 mark)

Y-Tsetse fly of glossina species

Z- Tapeworm/taenia species/moniezia expansa

1. In which organ in livestock is parasite Z found? (1mark)
* Small intestine or Ileum(1x1=1mk)
1. How is parasite Z passed from livestock to human being (1 mark)
* By eating infected raw meat or eating infected undercooked meat.
1. Give a control measures of each parasite Y and Z (2 marks)

Y - Bush clearing

 - Spraying bushes with appropriate insecticides

 - Trapping and killing tsetse flies

 - Sterilising males with sterilising agents and releasing them.

Z – Proper sewage disposal or farm hygiene

* Use of anthelminthic drugs to kill
* Eat well cooked meat

- Buy inspected meat

23. Below are illustrations farm tools and equipment

(a). Identify the tool/equipment labelled A and B (2 marks)

* A – Burdizzo
* B – Watering can

(Any 2 x1 = 2mks)

(b). State two appropriate uses of the tools labelled C (1 mark)

* Straightening bent metal surface
* Demolishing farm structure

(c). Explain two maintenance practices of the tool labelled D. (2 mark)

* Clean after use to remove dirt
* Greasing to reduce friction
* Sharpen blunt blade to facilitate cutting

(Any 2 x1 = 2mks)

1. A farmer wants to prepare a ration for layers containing 18% DCP. Using maize germ 20% DCP and a wheat grain 10% DCP

(a). Calculate using peason’s square method the amount of each food stuff needed in order to prepare 100kg of feeds. (5 marks)

 18%

 Maize Germ 20% 8 parts of maize germ

Wheat bran 10% 2 parts of Wheat Bran

Total parts = 10

Calculating for

Maize = $\frac{8}{10}$ x 100 = 80kg

Wheat $\frac{2}{10}$ x 100 = 20kg

 (4x1=4mks)

b) Other methods

* Trial and error (1mk)

**SECTION C [20 MARKS]**

***Answer all questions in this section***

25. (a). Describe conditions under which bees abscond the hive. (5 marks)

* Shortages of food and water forces the bees to migrate
* Disease outbreak
* Attack by pest/predators
* Bad smell/odour
* Sick/infertile queen
* Excess heat in hive
* Over crowding

 (b). Describe the causes of stress in poultry management. (10 marks)

* Any sudden change in routine
* Parasite infestation
* Lack of food and water
* Strangers and predators in the birds house
* Sudden noise such as passing tractor/thunder
* Poor handling of birds during routine practices
* Overcrowding which lead to competing for space
* Weather changes e.g excessive heat or cold
* Poor lighting in poultry house
* Inadequate laying nest
* Disease infection

 (c). Describe the uses of fences on the farm. (5 marks)

* Uses of fences
* Marking boundaries –Avoid Land disputes
* Keep off wild animals and intruders/provide security
* Allow practice of mixed farming
* Isolate/confine animals which require special attention
* Control breeding by paddocking
* Live fences act as wind breakers
* Add beauty to the farm
* Add value
* For privacy

26. (a). Explain four factors that affect digestibility of food in livestock. (8 marks)

* Chemical composition of the feed e.g. % of lignin or cellulose will influence digestibility.
* The form in which the feed is offered to the animal e.g. crushed maize is more digestible than whole grain
* The species of the animal e.g. the digestibility of grass is higher in sheep than in Pigs.
* The ratio of energy to protein will affect digestibility. The higher the ratio the lower the digestibility
* The quantity of feed already present in the digestive system of an animal.

 (b). Explain the essentials of clean milk production. (7 marks)

(i). Healthy milking gear II should be free from milk-borne diseases such as brucellosis’ and tuberculosis which is easily transmitted to man

(ii). Clean milking cows. The flanks underline and the whole udder should be washed and dried thoroughly before milking.

(iii). Healthy and clean milk – man milker suffering from any contagious diseases should not be allowed to milk or handle milk

1. Clean milking shed Milking shed or palour should be kept clean, free from dust o odours
2. Milk filtration/cooling and storage Milk should be filtered and cooled down to 5oc immediately after milking.
3. Avoid flavours in milk, Bad flavours in milk are caused by foodstuffs and ovulations should be avoided before milking

(7x1=7mks)

 (c). State the disadvantages of clean natural method of mating. (5 marks)

* High chance of in breeding or in breeding is not controlled
* High chances of breeding disease transmission i.e. brucellosis or parasites such as trichonomasspp
* Males require extra pasture to feed on
* Large males can injure small females
* A lot of semen is wasted as single ejaculation produce semen that can serve several cows
* It is cumbersome and expensive to transport a bull to hot areas to serve cows.

(5x1) 5mks

27. (a). State four advantages of using a sub soiler in seedbed preparation. (4 marks)

* Used in breaking hard pan
* Facilitate aeration
* Facilitate water infiltration
* Help in pulling deep rooted weeds
* They loosen up the soil through the vibration they make

 (b). Give six advantages of artificial insemination in cattle management. (6 marks)

* Controls breeding diseases/parasites
* Controls breeding
* Its quicker method of obtaining a proven bull
* It’s easy and cheap to transport semen to far areas
* Semen from a superior bull can be used to serve many cows
* Farmers who cannot afford to buy a superior bull can access the service at a low cost
* Bulls that cannot serve naturally due to physically injuries/defects can be utilized
* Prevents injuries to cows by heavy bulls

 (c). Explain ten function of water in animal’s body. (10 marks)

* Acts as solvent for chemical Substances
* It’s a medium of transport of nutrients in the animal’s body
* Help in excretion of waste product from animal’s body
* Regulates temperature through sweating and evaporation
* Maintaining solute-solvent balance in body fluids (osmoregulation)
* Make cells turgid, maintaining the shape of the body cells
* Used in bio chemical reactions in the body e.g. digestion of food
* It’s a component of body fluids
* Distribution of heat in the body