



MARKING SCHEME THE ROYAL EXAM SERIES

Kenya Certificate of Secondary Education



443/2 — AGRICULTURE — Paper 2

SECTION A

1 *Uses of the roof in a cattle dip;*

(1mk)

- Prevents evaporation of acaricide solution.
- Prevent particles and dust from dropping into the dip tank.
- Prevent dilution of acaricide solution by rain water.

2 **Causes of soft shelled eggs;**

(1mk)

- Lack of calcium
- Attack by Newcastle disease

3 *Four signs of farrowing in pigs*

(2mks)

- Restlessness
- Frequent urination
- There is enlargement of the vulva
- Muscles on each side of the tail slacken
- There is loss of appetite
- The udder and the teats become enlarged
- The sow collects bedding material at one corner to build a nest
- 24 hours before farrowing there is milk present in the teats.

4 *Causes of cannibalism in poultry*

(2mks)

- Presence of external parasites
- Overcrowding of birds
- Bright light
- Presence of prolapse
- Mineral deficiency
- Introduction of new birds in the flock

5 *Maintenance of a jack plane*

(2mks)

- Apply oil to prevent rusting
- Repair broken parts
- Replace lost bolts and nuts
- Store properly in a tool rack
- Sharpening or whetting the blade on an oilstone when necessary.
- Laying it on its side at the workbench if not in use.
- Tighten loose nuts and screws

- Cleaning it after use.

6 Uses of solar power

(1 ½ mks)

- Drying farm produce and other materials
- For heating water
- For distillation of clean drinking water
- For cooking
- For generating electricity

7 Types of layer breeds of chicken

(2mks)

- White leghorn
- Brown leghorn
- Black leghorn
- Ancona
- Minorcas
- Exchequer
- Issa brown

8 Distinguishing characteristics of essex and wessex saddle back

Essex saddle back has all legs are white while for wessex saddle back they are only the fore legs which are white (1mk. Mark it as a whole)

9 Symptoms of brucellosis

(2mks)

- There occurs a spontaneous abortion or pre-mature birth
- Retained afterbirth /placenta after abortion
- The cow becomes barren.
- the bulls have low libido and inflamed testis (orchitis)
- A yellowish, brown, slimy, odorless discharge from the vulva may occur after abortion.

10 Reasons for inbreeding in livestock.

(2mks)

- To increase genetic uniformity in the herd
- Used to fix the required characteristics in the new-breeds
- To increase phenotypic uniformity
- Used to get proven sires
- Used in animals of high prepotency

11 Effects of Tsetseflies on livestock

(1mk)

- Transmit the disease trypanosomiasis
- Suck blood causing anaemia
- Their bites cause damage to the skin
- Their bites cause wounds which may act as routes for secondary infections by pathogens.
- They cause irritation.

12 **Types of rabbit houses**

(1mk)

- Morant cage
- Hutch

13 **Types of vaccines used in livestock.**

(2mks)

- Live virulent vaccines
- Live attenuated vaccines
- Killed or dead vaccines
- Toxoids

14 **Type of pests that affect bees.**

(2mks)

- Ants
- Wax moth
- Bee louse
- Honey badgers

15 **Reasons for dehorning cattle.**

(2mks)

- To make animal docile
- Reduce incidence of animals injuring each other
- Reduce incidence of animals damaging farm structures
- Increase feeding, watering and transportation space
- Add aesthetic value to the animal

16 “Cropping” is the removal of marketable size of fish from the pond while harvesting is the removal of all the fish from the pond. (1mk. Mark it as a whole)

17 **Reasons for steaming up.**

(2mks)

- To provide nutrients for maximum foetal growth
- To help build up energy for parturition
- To ensures birth of a healthy animal
- To promote good health of the mother
- To increase and maintains high milk yield after birth

18 **Four post – milking practices.**

(2mks)

- Weighing and recording of milk
- Straining
- Cooling and storing
- Cleaning of utensils
- Washing the palour

SECTION B (20 Marks)

20 (a) K....Crop (½ mk)

L...Proventriculous (½ mk)

M.. Gizzard (½ mk)

N ... Ceacum (½ mk)

(b) Function of the part labeled K (1mk)

- Stores food temporarily
- Moistens the food

(c) Characteristics of the part labeled M. (2mks)

- Equipped with muscles on each side.
- Sliding movements of these muscles causes the crushing and grinding of food particles.
- Presence of grit/sand stones that enable crushing of the food.

20 (a) Milk fever (1mk)

(b) Low level of calcium in the blood stream of the animal/ Deficiency of calcium in animal that has recently given birth (1mk)

(c) Symptoms of the disease are; (3mks)

- Dullness
- Muscular twitching causing the animal to tremble
- Staggering as the animal moves
- Animal falls down and becomes unconscious
- The animal lies down on its side and the whole body stiffens
- Body functions such as urination, defecation and milk secretion stops
- Stomach contents are drawn into the mouth which later cause lung fever when breathing in.
- Loss of appetite.

21 (a) Barbed wire fence (1mk)

(b) I.....Standard (½ mk)

J.....Braces (½ mk)

K.....King post/Strainer (½ mk)

L Barbs

(½ mk)

(c) - Cannot control / prevent small animals from entering the fields

- Causes injuries to the animals
- Plucks wool from the sheep. (2mks)

22 (a) A -----Hose pipe/delivery pipe. (½ mk)

B-----Trigger control (½ mk)

C----- Lance (½ mk)

D----- Nozle (½ mk)

(b) Maintenance practices of the equipment; (2mks)

- Wash thoroughly and dry it after use
- Replace or repair worn – out parts
- Unblock blocked nozzles.
- Sieve water to avoid dirt blocking nozzles
- Grease movable parts such as the trigger control valve
- Store it in a clean and dry place
- Tighten any loose parts.

(c) Disadvantage of using the equipment: (1mk)

- Cannot be operated by one person
- All the hidden areas of the ticks may not reached by the chemicals after spray.
- Sprays small number of animals
- Chemical cannot penetrate to the inner parts of the body incase of wool animals
- Wastes the chemicals.

SECTION C (40 Marks)

23 (a) *Newcastle disease*

(i) *Causal organism is virus.* (1mk)

(ii) *Symptoms.* (6mks)

- The birds have difficulties in breathing. They produce a harsh, grating rasping sound when breathing.
- The beak remain wide open and neck is strained
- The birds become dull
- The birds stand with eyes closed all the time.
- The birds loose appetite
- There are nasal discharges which force the birds to shake their heads to clear it.

- Birds walk with a staggering motion since its nervous system is affected
- Paralysis of wings and legs may occur
- Often the birds have their beaks and wings down.
- Birds produce watery greenish diarrhea
- Eggs laid have soft shells.

(iii) Vaccination should be done during the first 6wks

In case of an attack farmers are advised to kill all birds and burn them

Clean and disinfect the house before bringing in new birds.

Quarantine is imposed once there an outbreak.

(1 x 3 = 3mks)

(b) **Requirements of a deep litter house in poultry.**

(5 X 2

=10 Marks)

- Site – the area where the house is built should be well drained
- House – the house should be leak – proof, well ventilated and raised 60 – 90 cm from the ground. It should be draught free. The floor should be placed with litter to keep it warm and dry
- Feeders and waterers should be enough and kept clean. They should be placed at various points in the chicken house to avoid over crowding.
- Roosts and perches- these should be provided and be well spaced. They should be movable to avoid accumulation of droppings at certain points, causing dampness.
- Nests – There should be enough laying nests with sufficient space to accommodate the birds laying.

24 (a) Procedure of training a calf to drink milk from a bucket.

(5mks)

- Well measured milk is put in a clean bucket
- Index finger is inserted into the mouth of the calf.
- Lower the finger slowly until it is submerged in milk as the calf sucks. This allows the calf to drink milk.
- The finger is withdrawn slowly as the calf continues to drink from the bucket.
- The procedure i.e steps (i) – (iv) is repeated until the calf gets to learn how to drink milk from a bucket without any assistance.

(b) **Factors considered when selecting eggs for incubation.**

(7 x 1

=7mks)

- The fertility of the eggs
- The size of the eggs- they should be medium size. 55 – 60 gms is appropriate and any weight below or above this affect hatchability.

- The smoothness of the shells. Shells should be smooth
- Shape of the egg- They should be oval shaped eggs.
- The eggs should be free from any cracks in the shells.
- Cleanliness. The eggs should be clean to ensure that the pores are open.
- Abnormalities. The eggs should not have any abnormalities such as blood spots, meat spots or double yolk.
- Eggs should be fresh that is collected within one week.
- The eggs should be fresh and should not have been stored for more than 8 – 10 days.

(c) Procedures that would ensure clean milk production:

- Milking equipment should be clean
- Clean milking parlour/shed
- The udder should be cleaned before milking
- The milkman should be clean and healthy
- The cows should be tested for mastitis before milking
- Cows with mastitis be milked last and milk disposed off.
- The milk should be sieved/ filtered after milking
- The milk should be stored in a cool dry place/ proper storage.
- Cow should be healthy/check the cows regularly for milk –borne disease.
- The milk should be covered after milking.
- Feeds that can taint milk should be avoided/equipment that can taint milk should be avoided.
- Milk should be cooled immediately to reduce bacterial multiplication.
- Clip hair around udder and flank.

1 x 8 = 8marks)

25 (a) *Symptoms of liver fluke infestation in livestock.*

(6marks)

- Loss of weight and emaciation
- Pot-bellied condition due to watery swellings on the body of the affected animals
- The animal will suffer indigestion
- Damage to the liver tissues and hemorrhage due to movement of flukes within the liver.
- Anaemic condition due to sucking of blood.
- Dullness and the animal appearing depressed.
- Swollen and painful abdomen.
- Recumbency precedes death

(b) Rearing of one day old chicks to 8weeks old.

(14 Marks)

- On arrival supply water mixed with glucose or Ecozine
- Feed chicks on fresh chick mash
- Clean feeders before feeding
- provide adequate feeders and waterers.
- provide adequate feeds and water as per the age.
- vaccinate chicks against gumboro disease and marek after two weeks. Vaccinate against New castle at 3 – 4wks and fowl typhoid at seven weeks. Follow vaccination program.
- Dust the chicks and the brooder with appropriate chemicals to control external parasites.
- Check and adjust brooder temperature accordingly.
- Provide coccidiostat in water/feed to control coccidiosis.
- Dim light be provide to prevent toe pecking
- Introduce roosts to chicks from 6th week.
- Gradually introduce grower”s mash to the chicks from 7th week.
- Isolate and treat sick chicks.
- Properly dispose dead chicks
- Control internal parasites by deworming
- Debeaking should be done at 10 days old.
- Provide grit to chicks.
- Keep proper records.

(14 x 1 = 14 Marks)