

## FORM FOUR CLUSTER KCSE MODEL9

### AGRICULTURE PAPER 2 ANSWERS

#### SECTION A (30 Marks)

##### Answer ALL questions

1. a) Marking gauge marks one parallel line to the edge of the stock, while mortise gauge marks two parallel lines at ago.  
b) Milking churn is used to hold milk when in transit, while milking bucket is used to hold milk during milking.
2. a)
  - o Possible to compare animals of different age groups since heifer location is used.
  - o It is accurate. o It eliminates difference brought about by the environment since average performance of the herd.
  - o It is possible to make comparison of bulls of different artificial insemination centers.B) o Mass selection.
  - o Progeny testing.
3. o Romney marsh.
  - o Corriedale.
  - o Hampshire down.
4. o Lubricate the land wheel bearing.
  - o Check and tighten loose nuts and bolts before the day's work .
  - o Sharpen the blunt shares by hammering.
  - o Replace worn out shares.
  - o If it to be kept for a long period of time its surface should be coated with old engine oil to prevent rusting.
5. a)
  - o Availability of land.
  - o Availability of labour.
  - o Security. o Knowledge of the farmer.
  - o Topography of the land to facilitate easy drainage.
  - o Availability of appropriate equipment.b)
  - o Calf takes milk at body temperature.
  - o The milk is free from contamination.
  - o Scouring problems are minimized.

6. a)
  - o Drought conditions.
  - o When a new colony settles in the new hive.
  - o To prevent swarming away of bees.
  - o To encourage quick multiplication of a new colony.
- b)
  - o Honey badgers.
  - o Cinnamon –cheated bee –eater.
7. a) o Maintenance ratio is the daily feed allowance in correct amount with nutrients in the correct proportion to sustain all body processes without losing or increasing weight, while production ratio is the animal is the daily feed allowance given to the animal over and above the maintenance ratio which contains all nutrients in proper proportion for production purpose.
- b)
  - o Should be balanced.
  - o Palatable.
  - o Free from contaminants.
  - o Easily digestible.
8. a)
  - o Anaemia piglets.
  - o Curled toe paralysis.
  - o Milk fever.
  - o Development of goitre in young animals due to lack of iodine.
  - o Enzootic a taxia or swag back in lambs.
  - o Osteomalacia due to lack of phosphorous.
  - o Borine Ketosis or Acctonaemia.
- b)
  - o Use of caustic potash stick.
  - o Use off disbudding iron.
  - o Use of rubber ring and illustration.
  - o Use of dehorning collodion.
- c)
  - o To control breeding.

- o For faster growth rates.
  - o To control breeding diseases.
  - o To increase the quality of meat by removing unpleasant smell especially in coats.
9. a)
- o Hot and cold soaking.
  - o Sap displacement method.
  - o Pressure and vacuum treatment.
  - o Chemical treatment.
  - o Drying.
- b)
- o Foundation.
  - o Floor.
  - o Wall.
  - o Roof.
10. o Increase conception rate.
- o Facilitates implantation of zygote.
  - o Increases lambing percentage.
11. o Produce high power so can do a heavy work.
- o Efficient fuel and oil utilization.
  - o Perform a wide range of farm operations.
  - o Engines are efficiently cooled with water, thus allowing the production of large engine sizes.
  - o The exhaust gases are effectively expelled from the cylinder.
12. o Trailers.
- o Heavy harrows.
  - o Planters. o Rollers.
13. a)
- o Use of a male to serve a female.
- b)
- o More accurate as the male can detect heat in female.
  - o Less laborious as there is no need of checking the animals for heat signs.

o Useful when heat periods of females cannot easily be detected.

14. a)

o roughage is feedstuff with a high fibre and carbohydrate content and low in protein: while a concentrate is a feedstuff with high amount of proteins or energy and low crude fibre.

b)

o By products of flour mill e.g. maize bran, germ meal.

o By-products of breweries e.g. dried grain sprouts and malt extract.

o By-products of sugar industries e.g. molasses.

o Whole grains.

## **SECTION B (20 Marks)**

### **Answer ALL questions**

15. a)

o Ignition system.

b)

K-Spark plug L- Ignition key.

M- Ignition coil. N-Distributor.

c)

o Sudden stopping.

o Continuous engine running.

d)

o Replace the condenser regularly.

o Ignition wires with poor installation should be replaced.

o The ignition system should always be kept dry.

o The contact breaker points should be cleared.

o The breaker points should be adjusted so that they lie between 0.30 mm and 0.50mm.

o The spark plugs whose electrolyte is worn out should be replaced.

16. a) o Udder /cow udder.

b) o Mastitis.

c) R-Alveolus. S- Lobe. T- Gland cistern.

d) o Alveolus

17. a)

i. Breed: Large White.

Reason: Upright ears. - Dished snout.

b) Breed: Landrace

Reason: Drooping ears -Straight snout.

c)

o Saddlebacks/Essex saddleback/wessex saddleback.

o Berkshire.

o Middle white.

o Duroc Jersey.

## **SECTION C (40 Marks)**

### **Answer any TWO questions**

18. a)

o The milk man should be clean healthy.

o Should wash his hands thoroughly to dry with?

o Test for mastitis before milking.

o Use clean milk utensils before milking or equipment.

o Clean the udder before milking.

o Use two towels one for washing and another one for drying.

o Avoid flavours in milk by avoiding feeds which cause such flavours such as onions, mexican marigold, and pineapple wastes shortly before milking.

o Sieve the milk after milking to remove hairs and any other foreign materials.

o Wash the udder using warm water to remove dirt and stimulate milk let down.

o Ensure the cows are free from zoonotic disease.

o Milk cans/churns used to hold milk during storage should be made of materials which are free from copper or iron on the surface to bad smell in milk.

o Practice complete milking which can lead to the cow drying off quickly.

o Cover the milk to prevent contamination.

o Store milk in a cool place.

b)

i) o Protozoa/Trypanosoma marginale

ii. o High temperature/fever.

- o Loss of appetite / decrease in appetite.
- o General body weakness.
- o Swollen lymph nodes.
- o Lachrimation leading to blindness/running eyes.
- o Swollening of the body parts.
- o Anaemia.
- o Dullness is observed.
- o Diarrhoea.
- o Abortion in females due to high temperatures.
- o Rough coat.
- iii.
- o Treating animals with suitable trypanocidal drugs.
- o Effective control of tsetse flies.
- o Confinement of game animals in game parks.

19. a)

- i. Wind direction: on the leeward side especially livestock houses to avoid bad smell.
- ii. Topography: -should be gently sloping to facilitate free flow of rain and water.
- iii. Accessibility: - the place should be easy to reach from parts of the farm.
- iv. Soil type: -should be fairly well drained.
- v. Existing amenities: - should be located near to the existing amenities such as electricity and water supply.
- vi. Government regulation: -should be strictly be adhered to e.g. should be located under telephone posts.
- vii. Security: -structures e.g. poultry ones should be safe from predators, thieves and trespassers.
- viii. Farmer's tastes and preferences: -some may prefer to have a homestead in a sheltered place/farmer should consider what pleases him/her.

b)

- i) Sitting of the rabbit hutch;
- o Should be near the homestead.
- o The site should be accessible.
- o The place should be well sheltered from strong winds.
- o The site should be well drained.

ii) Selection of construction materials.

- o Materials should be durable.
- o Materials should be available.
- o Materials should be cost effective.
- o Wall materials should allow free drainage of urine and drainage passage of dropping.

iii) Requirements of rabbit hutch:

- o It should be leak proof.
- o It should be well ventilated.
- o It should be safe from predators.
- o It should be spacious.

20. a)

- o Mature ovum (yolk) is released from the ovary by rupturing of the follicles.
- o The ovum moves through the following regions of the female reproductive for addition of various components of the egg.
- o Fertilization takes place at the funnel, where there is also addition of the chalazae to hold the yolk.
- o Yolk takes 15 minutes at the tunnel.
- o The egg moves down to the magnum where thick albumen is added.
- o From the magnum the egg moves to the isthmus, where shell membrane that deforms the shape of the egg is added.
- o Water, mineral salts and vitamin are also added at the section.
- o The egg moves to the where there is calcium deposits used for formation of shell.
- o There is also completion of albumen addition in this section.
- o The egg is then temporarily stoned in the vagina.

b)

- o Dress appropriately in protective clothing.
- o Approach the hive quietly from behind.
- o Blow smoke around the hive then through the entrance hole using a smoker.
- o Lower the hive. o Open the hive by lifting the lid.
- o Break the propolis between the top bars, then lift the bars to remove the combs.
- o Use the hive tool to cut out the combs with honey, at the same time leaving a small strip of comb attached to the bars.
- o Do not harvest all the honey to avoid starving the bees.
- o Put the honey in a clean container.
- o Replace the top bars, ensuring no gaps are left.
- o Replace the lid.
- o Return the hive to its position.