AGRICULTURE 443/2 MARKING SCHEME

1. Angora ***(½ x 1 = 1mk)***

2. Age- Genetic status
   Species – Animal population
   Sex – Physiological status
   Body conformation
   Colour – Physical injuries
   (Any 4 x ½ =2mks)

3. Ambient temperature rej temperature alone
   - Type of feed eaten by the animal
   - Species of the animal
   - Level of production
   - Amount of work done by the animal
   - Weight/body size of the animal

   (Any 4 x ½ =2mks)

4. Testes – site for sperm production ***(1mk)***
   Epididymis – Stores sperms ***(1mk)***
   Penis – Is an ejaculatory structure or penetrates the vagina depositing sperms during mating
   (1mk)

5. Crutching - is the cutting/trimming of wool around the reproductive system of an ewe to facilitate mating

   Ringing – Is the cutting of wool around the reproductive system of a ram to facilitate mating
   (2x ½ =1mk) (mark as a whole

   (Any 4 x ½ =2mks)

6. Is the practice of infusing antibiotics into the udder of a dried off cow through the teats canal during the late gestation to reduce the incidence of mastitis (***2mks)***

7. – Should be clean
   - Should be free from internal abnormalities
   - Should be fertilized
   - Should be smooth shelled without cracks
   - Should be oval shaped
   - Should be of medium size (55-60g)
   - Should not be more than 10 days old

   (Any 4 x ½ = 2mks)

8. – Inadequate laying boxes
   - Presence of broken eggs and egg shell in the poultry house
   - Bright light in the laying nests
   - Idleness amongst birds
   -Delayed collection of eggs
   - Deficiency of minerals eg calcium
   - Inadequate feeding
   -Inadequate laying nests/boxes

   (Any 4 x ½ =2mks)

9. – Availability of the materials
   - Cost of the material
   - Skill of the farmer
   - Workability of the material
   - Durability of the material
   - Strength of the material
   - Suitability of the material

   (Any 4 x ½ =2mks)

10. (a) – Bacterial diseases
    - Viral diseases
    - Protozoan diseases
    - Nutritional disorders

    (Any 4 x ½ =2mks)

    (b) – Fever (high fever over 40°c
    - Blood stains in faeces and milk
    -Extensive bloat of the stomach after death
    -Carcasses lack rigor mortis
    - In dead animals a tar –like watery blood comes off the body oriticesl (openings)eg nose , Anus , mouth .
    - Swelling of underside of the body
    - Difficulties in breathing
    - Sudden death of the animal

    (Any 3 x ½ =1½mks)

11. a) Duroc jersey pig – black
    b) Saanen – white
    c) Darper sheep breed -white with black head (***½mks)***
    d) Light Sussex poultry breed –white plumage (***½mks)***

12. – Working mechanism
- Type of fuel used

(2 x ½ =1mk)

13. – It is possible to implant embryo from high quality female to a less valuable female and hence improve the performance of the offspring
- Stimulates milk production in a female that was not ready to produce milk
- A highly productive female can be spread over a large area to benefit many farmers
- It is easier to transport embryos in test tubes that the whole animal
- Embryos can be stored for long periods awaiting availability of recipient female

(Any 4 x ½ =2mks)

14. – It causes irritation
- They obstruct internal organs
- Transmission of diseases
- Cause aneamia
- They deprive the host animal of its food
  They cause injury and damage to tissues and organs ***(Any 4 x ½ =2mks)***

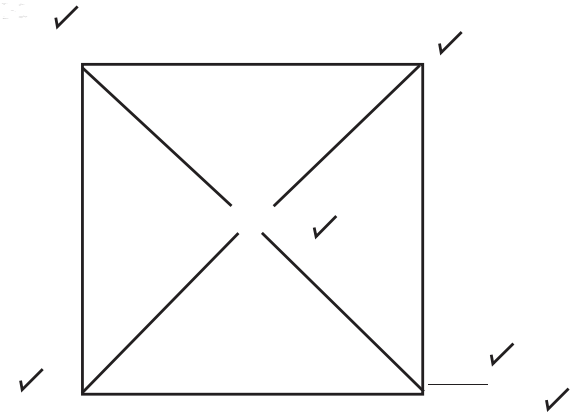
15. (a) Claw hammer ***(½mk)***
(b) Tin snips ***(½mk)***
(c) Try square ***(½mk)***
(d) Spoke shave ***(½mk)***

SECTION B

16. a) R – Pruning saw ***(½mk)***
S – Burdizzo ***(½mk)***
T- Hand drill ***(½mk)***
U – Cold chisel ***(½mk)***

b) R – Pruning or cutting hard branches***(1mk)***
U- Cutting thick metal sheets ***(1mk)***

c) – Clean after use
- Sterilize after use
- Proper storage
- Lubricate moving parts to reduce friction
- Tightening looses



✓½

Maize meal = $\frac{17}{27}$ x 300 = 188.9 kg ½

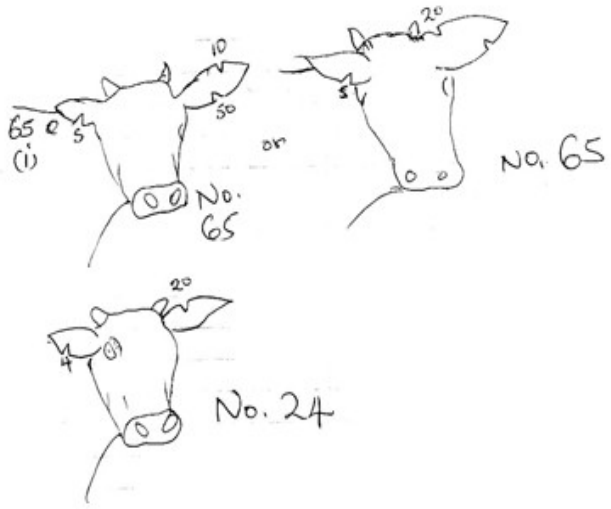
✓½

Soya bean meal = $\frac{10}{27}$ x 300 = 111. 1 kg ✓ ½

(5mks)

18 a) Ear notching (1mk)

(b)



19. (a) Spray race ***(1mk)***

19 (b) -It is fast

- Few attendants are needed/less labour required
- Animals cannot swallow the dip wash
- The farmer can spray even small, sick and pregnant animals
- The right concentration of acaricide is maintained
- It avoids wastage of acaricide

(Any 2 x 1 =2 mks)

(c) Plunge dip
- Machakos dip
- Crush ***(Any 2 x 1 =2 mks)***

SECTION C

20. (a) Control inbreeding
- Control breeding diseases such as brucellosis
-Semen from one superior bull can be used to serve many cows
- Semen can be stored for a long time
- Sires that are unable to serve cows due to heavy weight or injury can produce semen to serve cows
- Prevents large bulls from injuring small cows
- Reduces the cost of keeping a bull
- Small scale farmers who cannot afford to buy a superior bull can have the cows served at a low cost
- Eliminates dangerous bulls from the farm
- It is a useful research tool in livestock breeding

(7 x 1= 7mks)

(b) - Healthy animals grow well and fast enough to reach maturity quickly
- Healthy animals have a longer economic and productive life
- Healthy animals give maximum production
- Healthy animals produce high quality products
- Healthy animals do not spread diseases to other animals or human beings
- Less money is spend on disease treatment
- Healthy animals produce strong and healthy offsprings ***(5 x 1 =5 mks)***

(c) – Check the level of the engine oil daily using a deep stick and top up if low
- Check the fuel level and add if necessary
- Check the level of water in the radiator and top up if necessary
- Check the level of electrolyte if below the recommended level top up with distilled water .
- Tighten loose nuts and bolts
- Apply grease through the nipples and using a grease gun to reduce friction
- Remove large sediments from the sediment bowl
- Check the tyre pressure by use of pressure by use of pressure gauge and inflate or deflate where necessary
- Check the fan belt tension and adjust to lie between 1.9 cm to 2.5 cm
- The brake shaft bearing should be greased to reduce friction
- Ensure the brake fluid level is maintained at the recommended level

(Any 8 x 1 = 8 mks)

21(a) Age of the animal – The older the animal the lower the butterfat content and the younger the animal the higher the butter fat content
(b) Breed of the animal – jersey breed has the highest butter fat content while fresian breeds has the lowest butter fat content

(c) Type of food eaten by the animal /nutrition quantities of roughages produce milk with high butter fat content, protein and lactose
(d) Time of milking
Milk has a high butter fat content in the morning than in the evening
(e) Condition of the animal - Sick , pregnant and emaciated animals produce milk with low butterfat content
(f) Season of the year
- Butterfat content decreases during the cold season ; due to fat being used in the formation of adipose tissue to insolate against heat loss from the body
(g) Stage of gestation and lactation
- At the initial stage of lactation milk nutrient is low , the nutrient content rises at the middle phase of lactation and declines from the sixth month of gestation when demand for nutrients by developing foetus gets higher

(h) Completeness of milking
- The last drawn milk from the udder has 10% of the total fats percentage in the milk

(Any 5 x 2 =10 mks)

(b) – Use of pit latrines for disposal of human excreta
- Eating well cooked beef or pork
- Inspect beef or port properly
- Use of prophylactic drugs in pigs and appropriate drenching in cattle
- Rotational grazing to interrupt the tapeworms life cycle
- Observe high level of hygiene in animal houses
- Burning infested pasture during the dry season
- Ploughing infested pasture to destroy developmental stages of tapeworms

Any 5 x 1 = 5mks

21(c) – They have a hump to store fat which is broken down into energy in times of starvation
- Have high tolerance to high temperature due to presence of dewlap and thick hides
- Have high tolerance to tropical diseases such as trypanosomiasis, East cost fever
- They have a slow growth rate which lead to late maturity.
- They have a long calving interval
- They can walk for long distances in search of water and pasture without serious loss of body weight
- Low production of both meat and milk due to inheritance of poor characteristics
- Mature animals are small in size

Any 5 x 1 = 5mks

22(a) – Tools should always be left in a safe place after use
- Use of the tool for the correct job
- Tools should be maintained and serviced to remain in good working condition and last long .
- Tools should be handled correctly when in use to avoid damage to the tool and injury to the user.
- Use of safety devices to reduce accidents and to maintain a safe working environment
- All tools should be stored properly in tool cabinets or racks

Any 4 x 1 = 4mks

22(b) They prevent crops from being damaged by livestock and wild animals
- They provide privacy to the farms
- They improve aesthetic value of the farm
- They are used to mark farm boundaries
- They enable to carrying out of mixed farming
- Facilitate undertaking of rotational grazing
- Allow isolation of sick animals from healthy ones
- Help to control spread of parasites and diseases
- Provide security in the farm by keeping away intruders
- Movement of animals and people within the farm is controlled , avoiding creation of un necessary paths
- Live fences act as wind breaks
- They enhance controlled mating
- Live fences act as sources of livestock forage ***Any 8 x 1 = 8mks***

22(c) – Oxytocin ***1mk***
- Adrenaline ***1mk***

(d) – Appropriate milking technique
- Cull affected animals regularly and those that do not respond to treatment
- Apply udder infusions
- Treat any wounds on the udder
- Practice milking hygiene / separate udder cloth should be used for each animal
- Test for mastitis using a strip cup and treat accordingly
- Remove sharp object from the grazing fields and milking areas
- Carry out dry cow therapy
- House lactating animal in a clean and dry houses / sheds

Any 6 x 1 = 6mks