

## **AGRICULTURE PAPER 2**

**No.1.Name four rabbit breeds reared in Kenya. (2 marks)**

- ❖ *New Zealand white/Kenya white;*
- ❖ *California white;*
- ❖ *Flemish giant;*
- ❖ *Chinchilla;*
- ❖ *Rex;*
- ❖ *Angora;*
- ❖ *Ear lops;*

**No.2.Give the meaning of the following terms as used in livestock health:**

**a) Disease (1 mark)**

- ❖ *Any deviation or alteration in the state of animal body or its organs which interferes with proper performance of its functions*

**b) Vaccination (1 mark)**

*Is the administration of a weakened or killed disease causing agent into the animal to induce production antibodies for immunity against the disease*

**No.3.State four advantages of artificial calf rearing in dairy cattle management.(2 marks)**

- ❖ *Farmer is able to keep accurate records of milk yield*
- ❖ *Easy to regulate the amount of milk taken by the calf*
- ❖ *cows produce milk even in the absence of the calves*
- ❖ *allows for maintenance of high standard of hygiene during milking*
- ❖ *There is a possibility of the farmer selling more milk thereby maximizing profits.*

**No.4.List four materials that can be used in constructing a Kenya Top Bar Hive.(2 mark)**

- ❖ *Timber*
- ❖ *Nails*
- ❖ *Plain wire*
- ❖ *Iron sheets*

**No.5.Give four features of housing that help to control livestock diseases (2 marks)**

- ❖ *Well ventilated*
- ❖ *Well lit*
- ❖ *Easy to clean*
- ❖ *Free from draughts*
- ❖ *Spacious*
- ❖ *Leakproof*
- ❖ *Proper drainage*

**No.6.State four characteristics of the Duroc Jersey pig. (2 marks)**

- ❖ *Long body*
- ❖ *Black in colour*
- ❖ *Drooping ears*
- ❖ *Is hardy;*

**No.7. Give four characteristics of a good site for a fish pond. (2 marks)**

- ❖ *Topography/slope of land should be gentle sloping.*
- ❖ *Reliable water source.*
- ❖ *Area with cracks/anthills should be avoided.*
- ❖ *Soil type/site should be free of gravel/stone/sand/preferably clay soil.*
- ❖ *Secure from predators and thieves.*
- ❖ *The site should be accessible.*

**No.8. Name four systems of a tractor engine. (2 marks)**

- ❖ *Fuel systems, 1*
- ❖ *Lubrication system.*
- ❖ *Electrical system.*
- ❖ *Ignition system,*
- ❖ *Cooling system,*
- ❖ *Hydraulic system*
- ❖ *Power transmission system*

**No.9. What is dry cow therapy? (1 mark)**

- ❖ *The application of antibiotics into the teat canals of the cow's udder after drying off the cow to prevent mastitis/bacteria infection.*

**No.10. Give two reasons for steaming up in dairy cattle management. (2 marks)**

- ❖ *Ensures birth of a healthy calf*
- ❖ *Provides nutrients for maximum foetal growth*
- ❖ *Build up energy for parturition*
- ❖ *Increases and maintains high milk yield after birth/ stimulates development of alveoli*
- ❖ *Promotes good health of the cow / mother*
- ❖ *Accustoms the cow to concentrate feeding*

**No.11. State four maintenance practices for a disc plough. (2 marks)**

- ❖ *Cleaning after use*
- ❖ *Painting the frame*
- ❖ *Greasing the moving parts.*
- ❖ *Repair/replace broken/worn out parts.*
- ❖ *Metal parts on long storage.*
- ❖ *Proper storage*

**No.12. List four preventive measures for livestock diseases. (2 marks)**

- ❖ *Vaccination*
- ❖ *Proper feeding*
- ❖ *Quarantine imposition*
- ❖ *Use of prophylactic drugs e.g. coccidiostat*
- ❖ *Proper hygiene/ use of antiseptic/ disinfectants*
- ❖ *Treatment of sick animals; all aspects eg deworming. drenching*
- ❖ *Isolation of sick animals*
- ❖ *Proper selection and breeding*
- ❖ *Control of vectors*
- ❖ *Slaughtering sick animals /culling*

**No.13. Give two reasons for using litter in a poultry house. (1 mark)**

- ❖ To keep the house warm.
- ❖ To absorb moisture from poultry droppings.
- ❖ Keeps birds busy scratching, thus reducing cannibalism.

**No.14. State four disadvantages of fold system in poultry rearing (2marks)**

- ❖ Few birds per unit area.
- ❖ Laborious in moving the folds.
- ❖ Difficult to keep individual bird production records.
- ❖ Produces dirty eggs.
- ❖ Fold breaks easily due to constant movement.

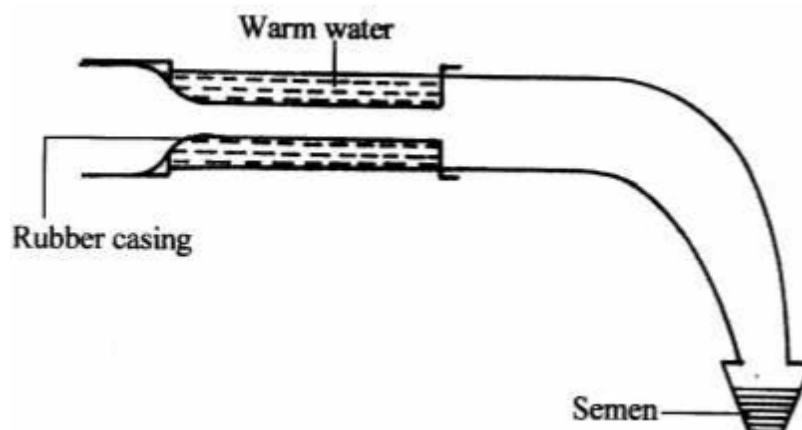
**No.15. State four practices that come immediately after complete milking in a milking shed (2 marks)**

- ❖ Teat dipping to control mastitis
- ❖ Weigh and record milk yield
- ❖ Sieve/strain/filter milk
- ❖ Application of milking jelly on teats
- ❖ Store milk in a cool place
- ❖ Clean the milk shed
- ❖ Release the animal
- ❖ Clean the milk equipment

**No.16. List four tools that are used when laying concrete blocks during construction of a wall. (2 marks)**

- ❖ Plumb bob/plumb line
- ❖ Mason's trowel
- ❖ Spirit level/pipe level
- ❖ Wood float/steel float
- ❖ Masons square
- ❖ String/masons line/line

**No.17 Below is a diagram illustrating an instrument used in cattle breeding.**



**(a) Identify the instrument (1 mark)**

- ❖ Artificial vagina

**(b) State the role of the instrument in cattle breeding. (1 mark)**

- ❖ Collection of semen from bulls

**(c) When would it be appropriate to serve a cow after the onset of heat?**

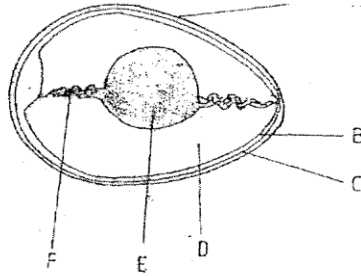
**(1 mark)**

- ❖ *Between 12-18 hours/at standing heat*

**(d) Apart from the method in which the above instrument is used, name two other methods of serving a cow. (2 marks)**

- ❖ *Natural mating*
- ❖ *Embryo transplant;*

**No.18. The diagram below is an illustration of an egg. Study it carefully and answer the questions that follow.**



**a) Name the parts labeled B, C, D and F**

- ❖ **B** - *Inner shell membrane* - ½ Mark
- ❖ **C** - *outer shell membrane* - ½ Mark
- ❖ **D** - *Albumen/egg white* - ½ Mark
- ❖ **F** - *Chalaza* - ½ Mark

**(b) State two qualities of the part labeled A that should be considered when selecting eggs for incubation. (1 mark)**

- ❖ *Texture/ smoothness of the shell*
- ❖ *Absence of cracks on the shell*
- ❖ *Cleanliness/absence of the shell*
- ❖ *Cleanliness/absence of blood stains*
- ❖ *Oval in shape.*

**(c) What is the function of the part labeled E in a fertilized egg?**

**(1 mark)**

- ❖ *Provides nutrients for the developing embryo/chick.*

**No.19 .The photograph below illustrates a method of identification labeled X in cattle.**



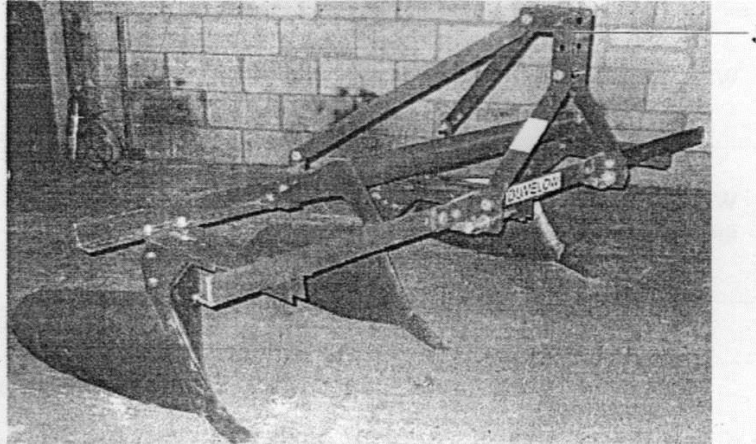
a) Name the identification method (1 mark)

❖ Branding

b) Explain three disadvantages of the identification method. (3 marks)

- ❖ Reduces quality of hides/skins/ because the heat damages the skin/hide
- ❖ Causes the animal a lot of pain because it uses heat
- ❖ Causes wounds which can result in infections

No.20 .Below is a diagram illustrating a farm implement. Study it and answer the questions that follow.



a) Identify the implement illustrated above

❖ A Ridger/mould board ridger.

b) State the use of the:

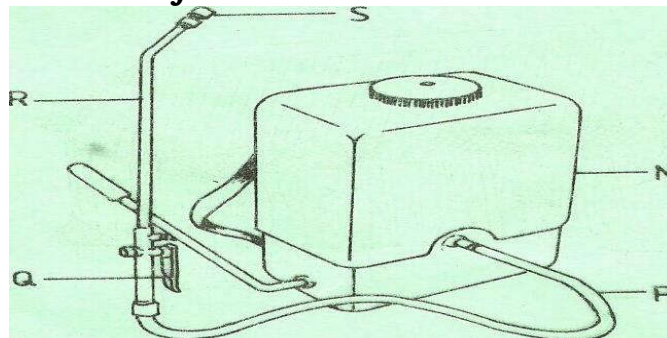
i) Implement on the farm

❖ To make ridges/furrows

ii) Part of the implement labelled j

- ❖ used to attach the implement to a tractor.
- ❖ Adjusting the depth of operation.

No.21.Below is a diagram of a knapsack sprayer. Study it carefully and answer the questions that follow



(a)Name the parts labeled N, P, Q and R. (2 marks)

- ❖ N - Tank
- ❖ P - Delivery note rej. hose pipe/hose alone
- ❖ Q - trigger
- ❖ R - Lance

**(b) State one function of the part labelled S (1 mark)**

- ❖ *Breaks the liquid chemical into desired size of droplets/spray form/fume droplets/jets*

**No.22(a).(i) Describe short-term tractor servicing. (10 marks)**

- ❖ *The engine should be checked daily by use of dip stick and oil level maintained;*
- ❖ *The fuel level should be checked at the start of everyday's work and added if necessary;*
- ❖ *Water level in the radiator should be inspected and if low topped up;*
- ❖ *The level of electrolyte should be checked daily and topped up with distilled water if low*
- ❖ *The nuts and bolts should be tightened every day;*
- ❖ *Grease should be applied regularly to the moving parts;*
- ❖ *Large sediments from the sediment bowl should be removed;*
- ❖ *Tyre pressure should be checked every morning before the day's work and adjusted accordingly;*
- ❖ *The fan-belt tension should be checked to ensure that it deflects between
  - *cm - 2.5 cm when pushed;**
- ❖ *The brake shaft bearing should be greased and break fluid level maintained;*
- ❖ *Lost bolts and nuts are replaced.*

**(ii) Explain the maintenance practices that should be carried out on an ox-cart.(5 marks)**

- ❖ *Moving parts should be oiled/ greased regularly to reduce friction (tear and wear);*
- ❖ *The yoke should be properly maintained eg. repair when worn out, replaced if not repairable, properly padded;*
- ❖ *Tyre pressure should be checked daily before the start of work;*
- ❖ *Broken trailer bodies should be repaired;*
- ❖ *Loose nuts and bolts should be tightened;*
- ❖ *Paint it if to be stored for long to avoid rusting;*
- ❖ *Clean after use;*
- ❖ *Store under shed;*
- ❖ *Replace lost nuts and bolts;*

**No.22b.State five indicators that can be observed on a goat to confirm sickness. (5 marks)**

- ❖ *By checking the appetite and feeding - if low or excessive it indicates that the goat is sick*
- ❖ *Defaecation - inconsistency in texture, colour, smell, frequency and posture, presence of parasite segments, egg, larvae or blood*
- ❖ *Urination - irregular posture, colour and frequency;*
- ❖ *Change in temperature above or below the normal range;*
- ❖ *Respiratory rate - irregular respiration shown by non-rhythmic inspiration and expiration indicates ill health.*
- ❖ *Pulse rate - Abnormal pulse rate under normal physiological status indicates ill- health.*
- ❖ *Production level - Loss of weight, emaciation and reduced production rate. Abnormal discharges*
- ❖ *Posture - while standing or lying.*
- ❖ *Behaviour eg. abnormal sound, aggression, excitement.*
- ❖ *Appearance - eg. dullness, restlessness, pot belly, bloated.*
- ❖ *Movement eg. gait, eg, standing or limping when walking.*
- ❖ *Mucous membranes (abnormal) eg. bright red colour, yellowish, blueish depending on disease.*
- ❖ *Skin/ animal coat - (abnormal) starring hair, coat, sores/ wounds on skin.*

**No.23a.Describe the uses of fences on the farm. (10 marks)**

- ❖ *Mark boundaries.*
- ❖ *Help to avoid boundary disputes*
- ❖ *Keep off wild animals and intruders from outside the farm.*
- ❖ *Enable the farmer to practice mixed farming.*
- ❖ *Facilitates rotational grazing*
- ❖ *Controls movement of animals and people preventing formation of unnecessary paths in the farm.*
- ❖ *Control the spread of parasites and diseases by keeping off wild and stray animals the farm.*
- ❖ *Help the farmer to isolate or confine animals requiring special attention.*
- ❖ *Enable the farmer to control breeding by rearing different animals in different paddocks.*
- ❖ *Hedges act as windbreakers.*
- ❖ *Adds beauty to the farm,*
- ❖ *Add value*
- ❖ *For privacy*

**No.23b Give five harmful effects of liver flukes in sheep rearing. (5 marks)**

- ❖ *Digestive upsets due to blocking of bile duct.*
- ❖ *Emaciation/recumbency leading to death*
- ❖ *Anaemia due to destruction-of-liver tissues*
- ❖ *Swollen lower jaw/Oedema in the jaws.*
- ❖ *Swollen abdomen.*
- ❖ *Destruction of liver tissues /haemorrhage*

**No.23c.Explain the factors considered when culling livestock. (5 marks)**

- ❖ *Poor health;*
- ❖ *Old age;*
- ❖ *Physical deformities;*

- ❖ Hereditary defects;
- ❖ Infertility;
- ❖ Poor mothering ability
- ❖ Poor quality products
- ❖ Low production;
- ❖ Bad temperament.
- ❖ Avoid inbreeding

**No.24a .Combs and wattles - small/shrivelled/shrunken. Dry scaly and place.**

- ❖ Eyes - dull and pale yellow.
- ❖ Beak - yellowish in colour.
- ❖ Abdomen/breast - hard and full
- ❖ Vent - round, dry and less active
- ❖ Space between kee and pelvic bone - small and fits only one or two fingers
- ❖ Plumage - preened & glossy (smooth) beautiful
- ❖ Moulting - early moulting
- ❖ Shanks/feet - Yellowish in colour
- ❖ Broodiness - Is common/early moulting
- ❖ Temperament - easy and dull

**No.24bi. Outline three characteristics of clean milk. (3 marks**

- ❖ Free from disease causing micro-organisms/pathogens
- ❖ Free from hair, dirt or dust.
- ❖ Free from bad odours and tastes/has good flavours.
- ❖ Chemical composition within expected standards.

**No.24bii . Explain seven factors that affect milk composition in dairy farming. (7 marks)**

- ❖ Age of animal - Butter fat in milk becomes less as an animal grows old thus young animals produce milk with higher BF than older animals.
- ❖ Breed differences e.g. Species of the animal
- ❖ Different breeds of cattle produce milk with differing percentage composition e.g Jersey produce higher BF than Friesian.
- ❖ Type of food eaten by an animal - Roughage feeds produce milk with higher fats, lactose and protein compared to grains.
- ❖ Diseases - Diseases such as mastitis reduce the lactose composition in milk because bacteria attack milk sugars.
- ❖ Physiological condition of the animal - Sick/extremely emaciated animals register low percentage of BF/during late pregnancy, cows produce milk with low BF content.
- ❖ Stage of lactation - The BF content in milk is highest at the middle phase of the lactation period and lowers towards end of lactation.
- ❖ Completeness of milking - Milk drawn last from udder during contains high BF content/last drop milk has BF content produce in the milk.
- ❖ Season of the year - accept environmental condition. BF content increases during cold seasons.
- ❖ Time of milking - Milk produced in the morning has a lower BF content than milk produced in the evening 1/2 factor method