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 droughts*
- *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 imnposition*
- *Use of prophylactic drugs e.g. coccidiostaf*
- *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.*

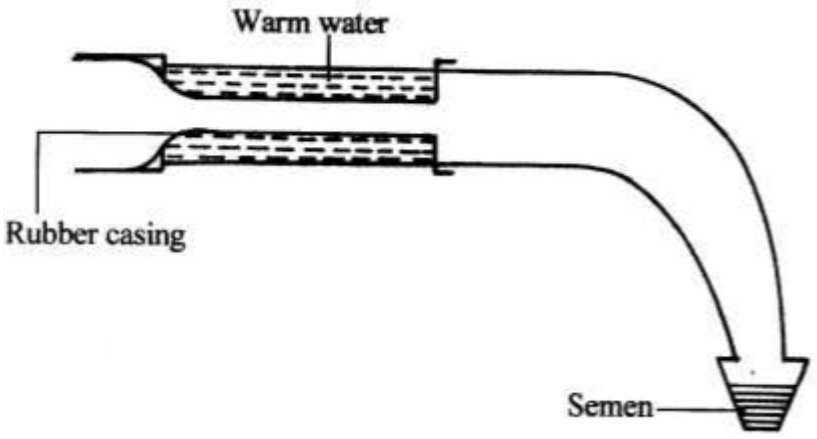
No.15.State four practices that come immediately after complete milking in a milking shed (2 marks)

- *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*

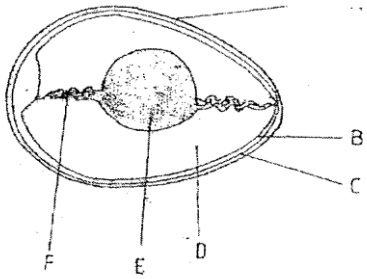
(c) When would it be appropriate to serve a cow after the onset of heat? (1 mark)

- *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.

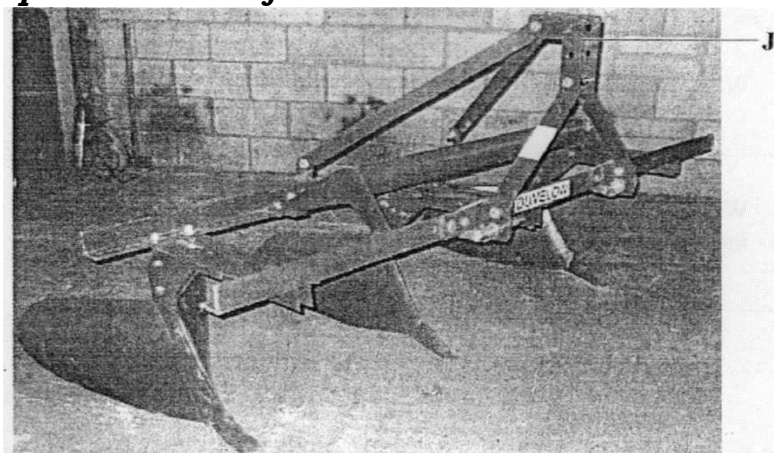
a) Name the identification method (1 mark)

- *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:

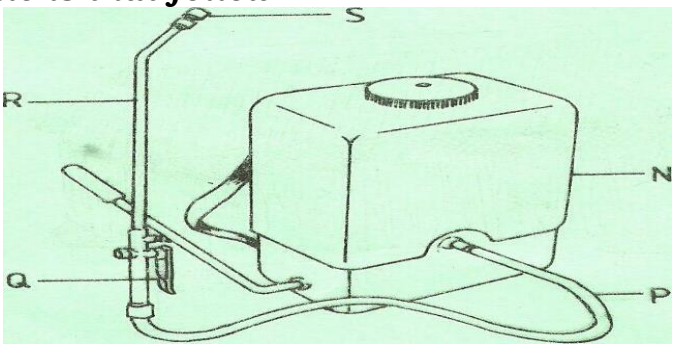
i) Implement on the farm

- *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 arasite segments, egg, larvae or blood*
- *Urination - irregular posture, colour and 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.*
- *Mucuors 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 fanner 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 wood eaten by an animal - Roughage feeds produce link 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*