AGRICULTURE FORM IV

PAPER 2 MARKING SCHEME

443/2

July 2018

SECTION A (30MKS)

1. Name two tools used for cutting galvanized iron pipes (2 x ½ = 1mk)
   - Hack saw
   - Pipe cutter

2. List two pork breeds of pigs (2 x ½ = 1mk)
   - Large white
   - Saddle backs
   - Middle white

3. Outline four routes through which disease causing organisms get into the body of an animal
- Mouth
- Nose
- Skin if ruptured
- Genital organs
- Eyes
- umbilical card in young animals
- Anus
- Ears

4 x ½ = 2mks

4. Name two developmental stages of a liver fluke in water snail (2 x ½ =1mk)
   - Sporocyst
   - Cercaria
   - Redia

5. Name four sources of carbohydrates in livestock nutrition (4 x ½ = 2mks)
   - Grain and cereals and their by product
   - Roots - eg sweet potato and cassava
   - Tube- eg Irish potato
   - Molasses – a byproduct of sugarcane
   - Pasture-eg grasses and legumes

6. Give four importance of docking in sheep management (4 x ½ =2mks)
   - Facilitate even distribution of fat
   - Prevent blow fly infestation
   - Facilitate tupping/mating
   - Ensure good hygiene/cleanliness
7. What does the term Epistalsis mean in livestock improvement

   Is a combination of genes which on their own could have been inferior or undesirable?

   (Mark as a whole) 1mk

8. Give two disadvantages of a barbed wire fence when used in paddocking
   - Can damage and remove wool from sheep
   - Barbs can injure the animals
   - Smaller animals can pass through if the wire strands are widely spread

   2 x ½ = 1mk

9. Outline four symptoms of attack by coccidiosis disease in kids
   - Diarrhoea
   - Dysentry/blood in dung
   - Dullness/sleepy eyes
   - Emaciation /Excessive loss of weight
   - Sudden death due Anaemia
   - Loss of appetite 4 x ½ = 2mks

10. Name four causes of stress in a flock of layers

- Introduction of new birds in the house
- Overcrowding
- Presence of strangers /strange birds
- High/low temperature
- Poor ventilation
- Parasite attack
- Inadequate food and water
- Poor handling of birds 4 x ½ = 2mks

11. State four advantages of natural feeding in calf rearing (2mks)

- Calf takes milk at body temperature
- Milk is free from contamination
- Prevents scouring in calves
- milk is provided adlibitum
- Low labour requirements 4 x ½ = 2mks

12. Give four implements that obtain power from power take off shaft of the tractor

- Mowers
- Planters
- Rotavators
- Sprayers
- Fertilizer spreaders (4 x ½ = 2mks)

13. State four factors that stimulate milk letdown in a lactating cow

- Taking the cow into a milking shed
- Sight for smell of food in trough

- Rattling sound of milking bucket
- Massaging/washing the udder with warm water
- Sight of the calf
- Sight of milk person
- Suckling by the calf 4 x ½ = 2mks

14. List four desirable qualities of a livestock ration
    - Highly nutritious/balance in nutrients
    - Highly digestibility
    - Free from contamination/foreign matter (4 x ½ = 2mks)
    - Highly palatable

15. Give three methods of applying acaricides on animals
    - Spraying on the animal body
    - Dipping animals completely in acaricide solution
    - Hand dressing using pyegrease (3 x ½ = 1 ½ mks)

16. List four components of power transmission system (4 x ½ = 2mks)
    - Gear box
    - Differential
    - Final drive
    - Clutch assembly

17. Give three signs of parturition in a doe (2 x ½ =1 ½ mks)

    Doe starts to make a nest using fur

    Doe goes off food a few days before kindling

18. State two factors that lower the quality of concrete (4 x ½ = 2mks)
    - Wrong ratio of ingredients
    - Poor mixing of ingredient
    - Quick drying/premature drying
    - Impurities/foreign material

- Large sizes of individual aggregates

19. State two uses for which wind power is harnessed (2 x ½ =1mk)
    - To pump water
    - To generate electricity
    - For processing/winnowing of grains e.g millet, rice etc

SECTION B

20a. identify the type of pass illustrated below (½ x 1 =1mk)

- Stile

b. Distinguish between a pass and a gate (1mK)

A pass allow only human passage while gate allows for both human and livestock in and out of the farm

(mark as a whole) ½ mk

c. List four types of tools and equipments used in the establishment of the structure above (4 x ½ = 2mks)

- Claw hammer
- Bow saw
- Handsaw
- Pair of pliers
- Soil anger
- Tape measure
- Panga
- Axe
- Wire strainer/stretcher
- Ramming rods
- Claw bar
- Spirit level

d. State one maintenance carried out on the structure (1mk)

- Loose or sagging wire should be straightened by use of a wire strainer
- Broken wire should be spliced
- Worn out posts should be replaced
- Broken brace posts and droppers should be replaced

21.

a. Name the farm implement drawn above (1mk)
   - Disc plough

b. Identify the parts labeled L and M above

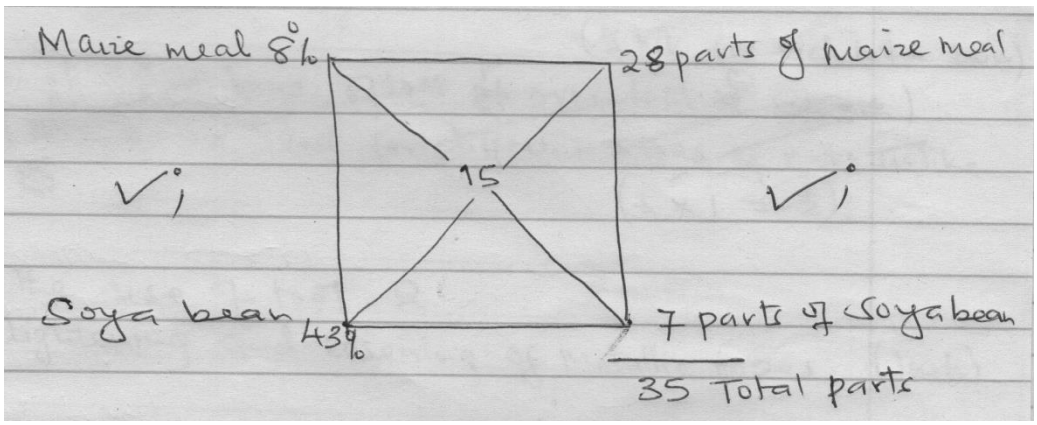
   L - Furrow wheel (½ mk)

   M - Beam (½ mk)

c. State the **function** of the part labeled M (1mk)
   - Adds weight
   - Forms attachment of all the other parts

d. State two field conditions under which the implement can work better than others
   - Where there are hidden obstacles eg stumps, rocks etc
   - Heavy soils (2 x ½ =1 mk)

22i) Pearson's square (3mks)



Maize meal $\frac{28}{35}$ x 100 = 80kg (½ mk)

Soya bean meal $\frac{7}{35}$ x100 = 20kg (½ mk)

ii) State four factors considered in selecting feedstuffs for computation (2mks)

- Digestibility
- Palatability
- Species of the animal
- Nutritive value / chemical composition
- Age of the animal
- Costs
- Availability of feed stuff

23.

a) Identify the tools
O – pick axe

P – adjustable spanner

Q – ring spanner

R – pipe wrench (4 x ½ mk for each tool = 2mks)

b) State the use of tool R (1mk)
- For tightening and loosening of metallic pipes

c) State four reasons for maintaining farm tools and equipments (4 x ½ 2mks)
- For efficiency in working
- To reduce operation cost/replacement cost
- To avoid injury to the user
- To avoid damage to the tool
- Increase durability

SECTION C

Attempt two questions from this section

24a) Describe East Coast fever under the following sub-headings

i) Causal organisms (1 x 1 =1mk)
- Theirellia parva/protozoa

ii) Symptoms of attack (5 x 1=5mks)
- Swollen lymph nodes
- Animal develop difficulties in breathing
- Coughing
- Animal salivates profusely
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iii) Control measures (4 x 1 =4mks)
- Spray the animal with chemical acaricide ,
- Control the vector organism (ticks)
- Fence the farm to keep off stray animals
- Treat sick with appropriate drugs

b. Explain management f a cow during parturition (10mks)

- Separate the cow from the others
- Keep a close watch in case of any complication
- In case of complication seek assistance from a qualified veterinary officer
- Wipe mucus from the nostrils of the calf
- Allow the mother to lick the calf dry/wipe with a clean cloth
- Tie and cut the umbilical cord and disinfect it by applying iodine
- Move the calf to a warm pen
- Let the calf suckle enough colostrums/assist the calf to suckle
- Take birth weight and record before the calf suckle
- In case the mother die give the calf artificial colostrums or introduce it to a foster mother
- In case of difficulties in breathing do artificial breathing
- Clean the udder with warm water before allowing the calf to suckle
- Promote the mother with enough clean water to drink
- Proper disposal of afterbirth by burying it in the soil
- Consult a veterinarian incase the after birth is retained for more than 48 hrs

25a. Describe the daily maintenance practices of a tractor (10mks)

- Check engine oil daily with a dip stick and add if necessary
- Check fuel level and add if necessary

- Water level in the radiator checked and toped up if necessary
- Check the level of electrolyte in battery and if need be top up with distilled water
- Tighten loose nuts and bolts, replace the lost ones.
- Remove large sediments from the sediment bowl
- Fan belt tension to be checked and see that it deflects between 1.9cm – 2.5cm
- Break shaft bearing should be greased
- Grease should be applied using a grease gun
- Tyre pressure should be checked every morning before the day's work by use of pressure gauge and adjusted accordingly.

b. Describe the characteristics of indigenous cattle that make them more suited to survive in marginal areas (10mks)

- Have humps that store fat which is broken down to energy and water in times of starvation
- Fairly tolerant to high temperatures due to dewlap and thick hides
- High tolerance to tropical diseases such as trypanosomiasis
- Slow growth rate leading to late maturity
- Low production of both meat and milk due to inheritance of poor characteristics
- Can walk long distances in search of food and water
- Can stay for long distances in search of food and water without seriously affecting their performance and body condition
- Have long calving intervals of more than one year

26a) Explain the role of livestock industry in Kenya's Economy (10mks)

- Provision of food, various livestock products such as milk, eggs, meat and honey are used as food
- Source of farm power , some livestock can be used to provide power for carrying out various activities eg oxen, donkeys and camels
- Provides employment; several people are employed in livestock industry either directly or indirectly
- Social cultural uses; depending on the culture of the society e.g. dowry, status symbol etc
- Source of income/ when livestock and livestock products are sold either locally or internationally
- Industrial development, various products are processed in industries which are taxable to raise income for national development

  (5mks for stating, 5mks for explanation)

a) Explain the principles considered when controlling Endo-parasites (5mks)
   - Flock and its environment
   - Nutritional status of the stock
   - Pasture management and rotational grazing
   - Housing management
   - Protection of the young
   - Prediction of an outbreak
   - Treatment

   Well explained points. (5 x 1 = 5mks)

b) Describe the procedure of harvesting honey in a Kenya Top Bar Hive (5mks)

- Done early in the morning or late in the evening
- Approach the hive quietly and blow smoke around the hive and then through the holes using a smoker.
- Lower the hive to the ground
- Using honey knife,Cut the combs from each top bar 3cm from the surface
- Put in a clean container rubbing off the bees using a twig
- Place back the bars and do not disturb the brood
- Return the hive to its position.

  5x1=5mks