

# KAPSABET HIGH SCHOOL

443/2 -

AGRICULTURE

- Paper 2

## 2022 TRIAL 2 JULY INTERNAL EXAMINATION

### MARKING SCHEME

SECTION	QUESTION	MAXIMUM SCORE	CANDIDATE SCORE
A	1-16	30	
B	17-20	20	
C		20	
		20	
	<b>TOTAL SCORE</b>	<b>90</b>	

**SECTION A: (30MARKS)**

*Answer all questions from this section on the spaces provided.*

- 1(a) Give **two** qualities of milk of the Friesian breed of cattle. (1 mark)
- *Has low butter fat content of about 3.5%.*
  - *Highest milk producing breed.*
- b) Name **three** components of a truss. (1½ marks)
- *Tie or beam*
  - *Two rafters*
  - *Struts*
  - *Rafter batter*
2. Give **two** reasons why Jersey breed of cattle is well suited to semi-arid conditions. (1 mark)
- *It has little pasture requirements.*
  - *An excellent grazer in poor pasture.*
- 3(a) State the effect of an incubator with internal humidity of 100%. (½ mark)
- *Lowers hatchability and leads to production of bigger chick which looks marshy.*
- b) State the use soluble grit to layer birds? (½ mark)
- *Encourage strong shelled eggs and efficient digestion.*
4. Give **two** uses of a wood float. (1 mark)
- *For plastering to create a level surface of floors and walls.*
5. Give **three** conditions may lead to culling of a breeding boar? (1½ marks)
- *Poor health*
  - *Old age*
  - *Poor production*
  - *Have physical deformities*
  - *To avoid inbreeding*
  - *Have heredity defects*
6. Identify **two** practices carried out during sap displacement in timber preservation. (1 mark)
- *Fleshy cut posts are packed in containers filled with wood preservative. The preservative is drawn up through the wood grains as the sap dries out.*

7(a) State **three** characteristics of the Galla goat (1½ marks)

- *Ability to adapt to hot conditions.*
- *White coloured body.*
- *Very good quality meat.*

b) Name the **two** breeds of camels. (1 mark)

- *Dromedary*
- *Bacterian*

8(a) List **three** sources of water to livestock. (1½ marks)

- *Rivers, streams, dams*
- *Springs, well, boreholes*
- *Rain water*

b) Maize germ, a livestock feed has a starch equivalent of 30%. Explain (1mark)

- *100kg of the feed will produce a net energy equivalent to the energy produce by 30kg of pure starch.*

9(a) State **four** ways in which fleas cause economic losses to the farmer. (2mark)

- *Cause irritation which leads to scratching.*
- *Stick fast fleas cause wounds on the point of attach.*
- *Lower quality*
- *Lower price*
- *Leads to mortality rates.*

b) List **three** limitations of water as a source of power in the farm. (1½ marks)

- *Most rivers are small and seasonal.*
- *It is expensive to harness the power.*
- *Most farms do not have access to large quantities of moving water.*

10. Tabulate **two** features that differentiate between dairy and beef cattle. (2 marks)

<i>Dairy</i>	<i>Beef</i>
<i>Wedge or triangular shaped</i>	<i>Blocky in shape</i>
<i>Selective grazing</i>	<i>Reduced selective grazing</i>
<i>Large udder</i>	<i>Small udder</i>

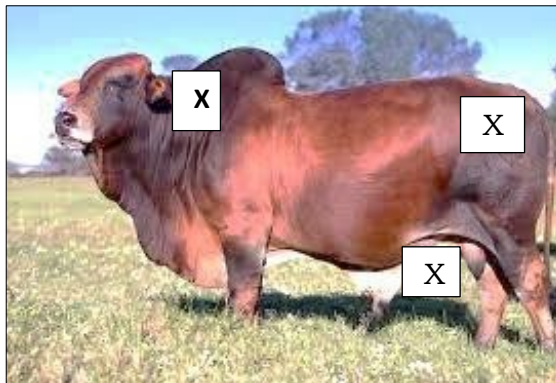
11. Define the following terms as used in livestock production. (1½ marks)
- a) Digestibility
    - *The portion of food retained in an animal's body after taking care of losses through urine, faeces and gases, expressed as a percentage.*
  - b) Prolificacy
    - *Ability to give birth to many young once.*
  - c) Malpresentation
    - *Abnormal calving where the forelegs don't come out first.*
12. Give **three** methods of selecting livestock for breeding (1½marks)
- *Mass selection*
  - *Progeny testing*
  - *Contemporary comparison*
13. Why should bees be fed on sugar syrup? (1mark)
- *When flowers are not available to maintain the colony.*
14. State **four** conditions that would encourage hens to eat eggs in poultry production (1½mark)
- *Bright light*
  - *Overcrowding*
  - *Pests attack*
  - *Lack of calcium minerals*
15. Distinguish between tuppung and serving. (1mark)
- *Tuppung – mating in sheep and goats.*
  - *Serving – mating in cattle and pigs.*
16. What is the advantage of using forage harvesters compared to a mower? (1mark)
- *They are designed for harvesting and chopping forage materials to appropriate sizes.*
17. Give **three** maintenance practices of ox ploughs. (1½marks)
- *The land wheel bearing should be lubricated.*
  - *Worn out shares be replaced.*
  - *Blunt shares should be sharpened by hammering.*
18. State **four** disadvantages of using live fence on the farm (2marks)
- *They take many years to grow.*
  - *Can be hiding places for rodents and thieves.*

- *Require regular trimming.*

19(a) Give **two** pre disposing factors of mastitis.  
(1mark)

- *Age*
- *Udder attachment*
- *Stage go lactation period.*
- *Incomplete milking*

b) Using letter **X** identify **three** areas infested with a three- host tick in the picture below.  
(1½marks)



**SECTION B: (20MARKS)**

***ANSWER ALL QUESTIONS FROM THIS SECTION ON SPACES PROVIDED***

20. Study the structure of a goat pen below and then answer the questions that follow.

**K- FOOD TRUPH/FOR  
PRIVISON OF FOODS**

**H**

**N**



- a) Specify the measurements between **H** and **N**.  
(½mark)

· ***(N-H) – (60-90CM High)***

Give a reason for your answer in a) above.

(½mark)

· ***Raised for proper drainage and easy cleaning.***

- b) State the function of part **K**.  
(1mark)

· ***Used to place feed in***

- c) Which type of floor is recommended for the pen shown in the picture above  
(½mark)

· Slated floor

Give a reason for your answer in (c) above

(½mark)

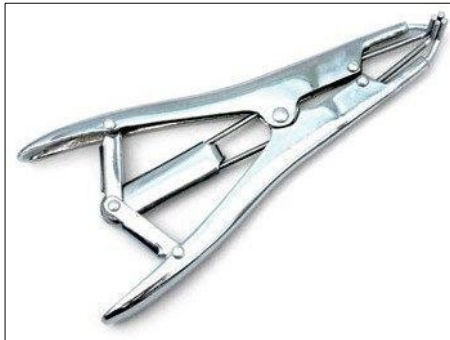
· ***to facilitate passage of droppings and urine***

- d) List **two** reasons for housing the calves singly.  
(1mark)

· ***To prevent licking each other as this may form fur balls in the stomach***

21(a) Identify the equipment X and Y below.

(1mark)



**X -Burdizzo**



**Y -Elastrator**

b) State the functions of each of the equipment.

(2marks)

- i. **X used for castrating bulls rams and billies**
- ii. **Y used to expand the rubber ring while docking castrating and dehorning**

c) i) Name the tool used to castrate a piglet.

(½mark)

- **Scalpel**

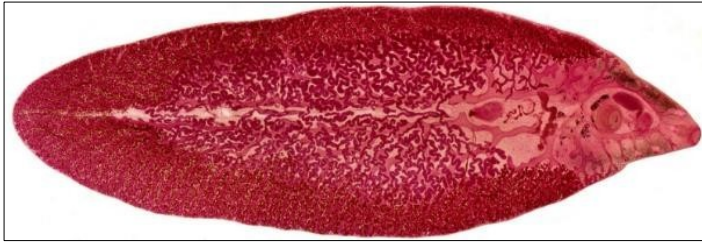
ii) Give **two** reasons for castrating a male piglet.

(1mark)

- **To control inbreeding**
- **Fattens faster**
- **Controls breeding diseases**

22(a) Identify the parasites below.

(1mark)



U

W

b) Name **two** species of parasite U.  
(1mark)

i. **Fasciola gigantica**

ii. **Fasciola hepatica**

c) Why is it difficult to control parasite U?  
(1mark)

- **It has an intermediate host**

d) State the livestock commonly affected by parasite W?  
(½mark)

- **Sheep**

e) A farmer wanted to mix 270kg of livestock feed containing 30% DCP by using Sorghum meal with 12% DCP and Soya bean meal containing 36% DCP. Calculate the quantities of each feedstuff he would have in the ration.  
(2marks)

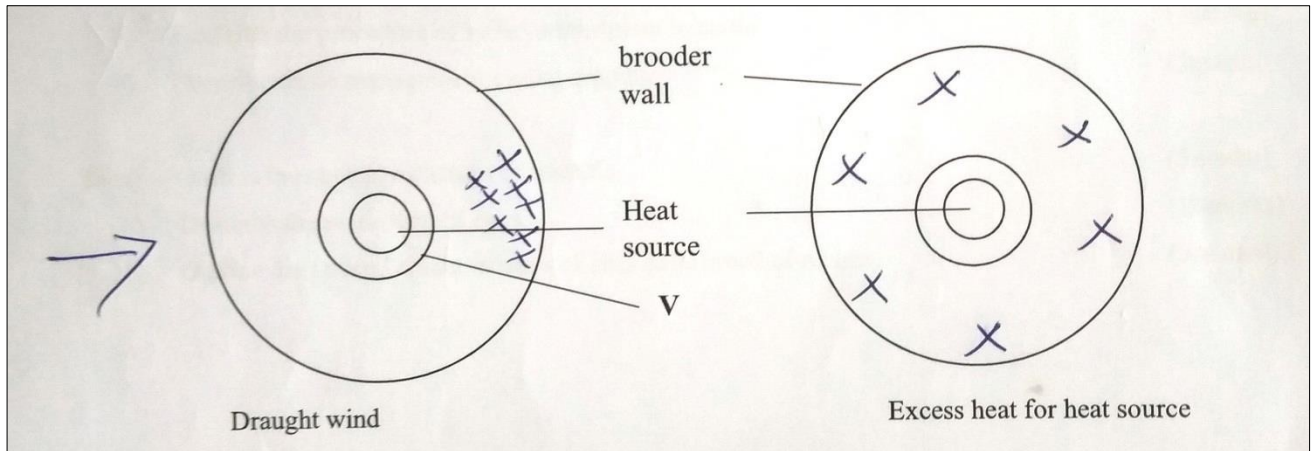
12% Sorghum, 36% Soyabean, 6% parts of Sorghum, 18% parts of soyabeans of Sorghum. (2marks)

$$\frac{6}{24} \times 270 \text{kg} = 67.5 \text{kg}$$

$$\frac{18}{24} \times 270 \text{kg} = 202.5 \text{kg}$$



23(a) Using x draw the behaviour of the chicks expected in the following conditions in a brooder.(2marks)



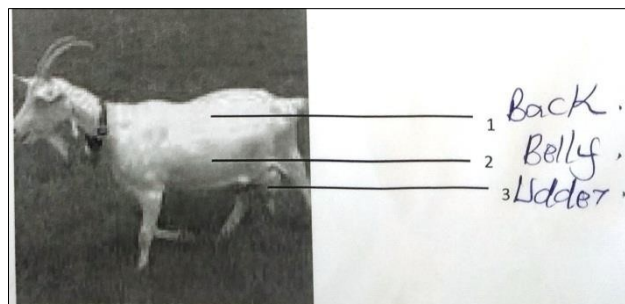
b) What is the role of the part labelled V? (½ mark)

- *to prevent the chicks from going to close to the heat source*

c) i) Identify the goat breed below. (1mark)

- *Saanen*

ii) On the diagram name parts 1-3. (1½ marks)



- d) List two features that are used to identify the goat breed  
(1mark)
- *White in colour*
  - *Upright ears and forward facing*

### SECTION C: (40MARKS)

**Answer ANY TWO questions from this section on foolscaps provided.**

- 24(a) Describe the procedure for honey harvesting in a Kenya Top Bar Hive.  
(5marks)

- *Honey is harvested early in the morning as late in the evening when bees are less active. When harvesting honey, the following steps are followed.*
- *Approach the hive quietly and blow smoke around the hive and later through the entrance holes using a smoker. The smoke makes the bees to start eating honey this becoming heavy an inactive.*
- *Lower the hive to the ground.*
- *Cut the combs from each top bar three centimetres from the surface and put them in a clean container rubbing off the bees using a twig. The 3cm of the comb left is for attachment of new combs.*
- *Place back the bars and do not disturb the brood.*
- *Return the hive to its position.*

- b) Name ten parts of an ox- drawn plough and state the function of each.  
(10marks)

- *Beam. This is the component onto which all other parts of the plough are attached. It also adds weight to the plough for better penetration.*
- *The handles. There are two handles, one on each side of the rear part plough. Handles enable the operator to see the implements in the direction when ploughing.*
- *The mouldboard. It invert the furrow slices*
- *Shore. It cuts the furrow slice horizontally.*
- *Landslide. The landslide presses against the wall of the unploughed land and therefore helps ot stabilize the plough.*
- *Land wheel. This is a wheel which is adjusted to regulate the ploughing depth.*
- *Draft rod. This is a metal bar which is attached to the main beam of the plough. At the front end of the draft rod there is a chain which connects it to the yoke.*

- c) Explain how physiological factors are used as a sign of ill or good health.  
(5marks)

- *fatigue*
- *weakness*
- *pregnancy*

- 25(a) Describe the process of milk let down in a cow.  
(6marks)

- *It involves the active participation of the lactating cow; and occurs after the animals is stimulated by a suckling calf by any other stimuli; such as washing of the udder with warm water/feeding, familiar noises;*
- *The pituitary gland is stimulated to produce oxytocin hormone;*
- *Oxytocin is transported by blood to the mammary glands;*

- *Oxytocin causes the contraction of the upper regions of the udder; which forces the milk into the gland astern.*
- b) Describe the procedure of embryo transplant in cattle.  
(9marks)
- *Female is injected with hormones; to make her produce more ova than a normal rate;*
  - *Ova are harvested form a high quality dairy cow;*
  - *The ova are fertilized in a test tube; with semen from a high quality bull.*
  - *The embryos that develop are stored in cold temperature to wait for implanting.*
  - *Implantation is done to other female animals; and hence called foster mother.*
  - *The embryo that develops when born produces a calf with superior characteristics*
- c) Describe cattle management during dipping  
(5marks)
- *Assemble the cattle near the plange dip/*
  - *Allow the cattle to drink water to minimize drinking of the dip wash solution.*
  - *Assemble the cattle in the collection yard.*
  - *Guide the cattle to the dip starting with young animals then older ones;*
  - *Allow the cattle to stand in the drainage race to drain off the dipwash;*
  - *Pregnant and sick animals should not be dipped.*
- 26(a) Outline the control measures of mastitis.  
(5marks)
- *Ensure complete and thorough milking is done;*
  - *After milking dip each teat in a teat dip containing antiseptics*
  - *Use a clean towel when drying the udder for each cow;*
  - *Use a strip cup to check for infected cows and quarters;*
  - *Remove sharp objects/treat wounds on teats*
  - *Control parasites such as ticks by using appropriate acaricides;*
  - *Infected animals should be milked last.*
  - *Treat infected animals using a teat cannula with an antibiotic;*
- b) Describe the marketing of eggs.  
(10marks)
- *Propect/carry out research for a market for eggs produced;*
  - *Sort the eggs according to colour; and size.*
  - *Standadise the sorted eggs into some colour and size;*
  - *Pack the eggs in crates of 6; or 30 eggs;*
  - *Transport the eggs with the egg trays arranged in stacks;*
  - *Sell the eggs through retailing; and through a cooperative; and directly to consumers;*
  - *Sale of egg should be done twice a week; to ensure supply of fresh egg;*
- c) Outline the general characteristics of chinchilla breed of rabbits.  
(5marks)
- *Grey and blue in colour.*
  - *Have an average weight of 4.5kg – 5kg.*
  - *Well-muscled / around back/muscular legs.*
  - *Ear area straight and stand erect.*
  - *Kept for meat and for production*
  - *Good breeders producing litter of between 6 – 9 kindlings.*
  - *Have good mothering ability.*