

**KANDARA SUB-COUNTY SECONDARY SCHOOLS FORM 3 2016  
JOINT EXAMINATION**  
Kenya Certificate of Secondary Education (KCSE)

**MARKING SCHEME**  
**Agriculture (443/2)**

Paper 2  
October 2016

**SECTION A (30 MARKS)**

- 1. Reasons for maintaining tools and equipments**
  - To increase durability
  - To increase efficiency
  - To reduce replacement cost
  - To prevent accidents
  - To avoid damage to the tool

*any four (4 x ½ = 2mks)*
- 2. Dairy characteristics possessed by a typical Friesian cow.**
  - Wedge or triangular shape
  - Straight top line
  - Large stomach capacity
  - Prominent milk veins
  - Well developed udders
  - Well set apart hindquarters to allow room for the big udder

*4 x ½ = 2mks*
- 3. Origin of the following breeds of pigs**
  - i) Duroc Jersey - Britain
  - ii) Wessex saddleback - England
  - iii) Landrace - Denmark
  - iv) Berkshire - Britain

*4 x ½ = 2mks*
- 4. Signs of ill health in livestock**
  - Rough hair/coat
  - Sudden drop in produce
  - Difficult in breathing
  - Dry mucous membrane
  - Abnormal defecation -bloody stain diarrhoea
  - Abnormal respiration
  - Isolation from the rest of the herd

*4 x ½ = 2mks*
- 5. Insect parasites that attack livestock**
  - Tsetse fly
  - Keds
  - Fleas
  - Lice
  - Mosquito

*3 x ½ = 1½ mks*
- 6. Roles of vitamins in livestock diet**
  - Promotes growth
  - Defends the body against diseases
  - Helps in blood clotting
  - Helps in muscular activity
  - Helps in bone formation
  - Act as organic catalysts in various metabolic and physiological reactions

*4 x ½ = 2mks*
- 7. Factors considered when selecting a breeding stock in pig production**
  - Good health - Free from disease
  - Fast growth rate and weight gain
  - Have good mothering ability
  - High fertility and regular breeder have maximum number of teats

*4 x ½ = 2mks*
- 8. Factors to consider when establishing an apiary**
  - Availability of water
  - Availability of flowers
  - A sheltered place
  - Away from human beings and livestock
  - A place which is free from noise and other disturbances

*2 x ½ = 1mk*
- 9. Methods of selection other than mass selection**
  - Contemporary comparison

- Progeny testing
- $2 \times \frac{1}{2} = 1mk$

**10. Management practices carried out to doe during gestation period in goat management**

- Control of diseases and pest through vaccination and drenching
  - Giving concentrates
  - Separate the doe one week before kidding
- $3 \times \frac{1}{2} = 1\frac{1}{2}mks$

**11. Structures that can be used to control livestock diseases and parasites on a farm.**

- Fence
  - Crush
  - Dips
  - Spray races
- $2 \times \frac{1}{2} = 1mks$

**12. Fill in the missing words**

DESCRIPTION	Cattle	pigs	Poultry
Young from birth/hatching to weaning	<u>Calf</u>	<u>Piglet</u>	Chick
Young female before first parturition	<u>Heifer</u>	Gilt	<u>Pullet</u>
Mature male for breeding	Bull	<u>Boar</u>	<u>Cock</u>

$6 \times \frac{1}{2} = 3mks$

**13. Viral diseases that attack cattle**

- Rinderpest
  - Foot and mouth
  - Rabies
  - Rift valley fever
  - Lumpy skin disease
- $4 \times \frac{1}{2} = 2mks$

**14. Workshop tools and equipment that can be used for measuring distances.**

- Tape measure
  - Folding rule
  - Try square
  - Sliding rule
  - Calipers
  - Marking gauge
  - Combination square
  - Zigzag rule
  - Mason's square
- $4 \times \frac{1}{2} = 2mks$

**15. Reasons for flushing in sheep management**

- Production of more ova
- Increase lambing rate
- Facilitate zygote implantation
- Increase conception rate
- Encourages multiple births/increase twinning percentage

**16. Breed of goat kept for hair production**

- Angora goat
- $1 \times \frac{1}{2} = \frac{1}{2}mks$

**17. Functions of purlins in a roof**

- Holding roofing materials
  - Holding rafters together to form one unit
- $2 \times \frac{1}{2} = 1mk$

**18. Factors that predispose livestock to disease**

- Sex
  - Age
  - Species
  - Colour
  - Breed
- $4 \times \frac{1}{2} = 2mks$

**SECTION B (20 MARKS)**

**19. a) Identify the tools labelled B and C**

- B - Jackplane
  - C - Auger bit
- $2 \times 1 = 2mks$

**b) Function of the tool labelled E**

- Used for marking the point of drilling
- $1 \times 1 = 1mk$

**c) Naming the parts labelled A and D**

- A - prongs
  - D - spur
- $2 \times \frac{1}{2} = 1mk$

**d) Maintenance practice and out on tool A**

- Replace blunt blade
  - Tighten or loosen the blade using a wingnut
  - Repair broken parts
- $1 \times 1 = 1mk$

20. i) Identifying the structure

- Plunge dip/cattle  $1 \times 1 = 1mk$

ii) Identifying the parts labelled

M - footbath

N - Dip tank

P - Exit ramp

Q - Roof

$4 \times \frac{1}{2} = 2mks$

iii) Importance of part labelled M and P

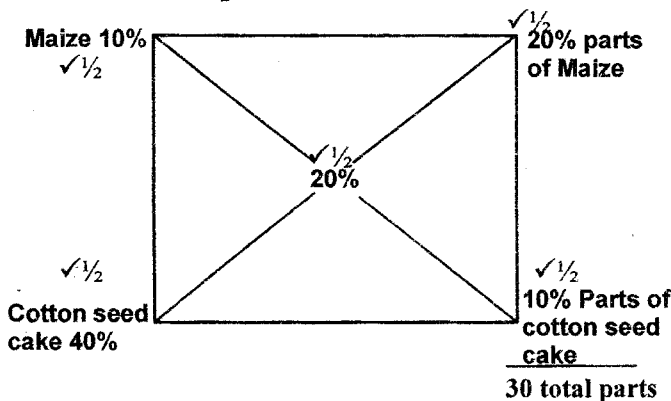
M - Removes mud from the animals hooves

- Has copper sulphate that prevents occurrence of foot rot in animals

P - Enables the animals to exit the dip tank easily

$2 \times 1 = 2mks$

21. Ration computation



Maize =  $\frac{20}{30} \times 600 = 400\text{kgs of maize}$  ✓  
 $\frac{1}{2}$

Cotton seed cake =  $\frac{10}{30} \times 600 = 200\text{kgs of cotton seedcake}$  ✓  
 $\frac{1}{2}$

22. a) Identifying the parasites labelled X, Y and Z

X - Pork tapeworm (Taenia solium)

Y - Beef tapeworm (Taenia saginata)

Z - Tsetse fly

$3 \times \frac{1}{2} = 1\frac{1}{2} mks$

b) Intermediate hosts of species X and Y above

X - pigs

Y - cattle, sheep, goats

$2 \times \frac{1}{2} = 1mk$

c) Effect of the parasite labelled Z in livestock

- Sucks blood causing anaemia

- May transmit causing nagana

- Bites make wounds that serves as entry point of other pathogens

*any one half a mark*

23. a)i) Identifying the type of cattle

- dairy cattle  $1mk$

ii) Give a reason for your answer (a) above

- Wedge shape

- Large udder

- Large teats

$1mk$

b) Naming parts Y and Z

Y - Tail switch

Z - Muzzle

$2 \times \frac{1}{2} = 1mk$

**SECTION C (40 MKS)**

24. a) Factors considered when selecting materials for construction of a pig sty

i) Cost of materials. Affordable materials should be used

ii) Availability of materials. Availability of materials tend to be cheaper and transport costs are avoided

iii) Durability of materials- durable materials, when used reduce cost of replacement.

iv) Availability of skills to use the material - Materials easily worked on may reduce cost of skilled labour

v) Type of pig sty - Temporary or permanent more durable materials should be used for permanent sites.

vi) Suitability of materials eg use of non-toxic painting materials

vii) Farmers tastes and preferences - farmers may use materials that satisfy his interests

viii) Workability of the material -

ix) Environmental conditions eg soil type, climate, temperature

*State 1mk 7 x 1 = 7*

*Explanation 7 x 1 = 7mks Max 14mks*

b) Symptoms of attack by round worms

- Anorexia under heavy infestation
- Staring coat
- Dehydration and a pale mucosa
- Eggs and adults are seen in faeces
- General emaciation
- The animal may have diarrhoea
- Pot bellows especially in young animals
- Anaemic condition where infestation is heart

*6 x 1 = 6mks*

**25. a) Signs of farrowing in a sow**

- Restlessness
- Loss of appetite
- Enlargement of vulva
- Udder and teats become enlarged
- Presence of milk in teats
- Slackening of muscles on each side of the tail
- Sow collect bedding materials at one corner/ nesting

*4 x 1 = 4mks*

**b) Life cycle of one host tick**

- Adult tick lay eggs on the ground
- Eggs hatch into larva
- Larva wait for passing host and climb unto it
- Larva sucks blood become engorged and moult into nymph
- Nymph suck blood become engorged and moult into adult
- Adult suck blood, mate before dropping to the ground to lay eggs.

*6 x 1 = 6mks*

*Correct sequence to be followed*

- c) i) Chemical composition - simple molecular materials are easier to digest than more complex molecular food materials
- ii) Form in which feed is offered to animals eg ground maize is easier to digest than grains
- iii) Ratio of energy to proteins. The higher the ratio the lower the digestibility.
- iv) Quantity of feeds already present in the digestive system. The higher the amount the lower the digestibility.
- v) Species of the animals eg digestibility of

grass is higher in polygastric ruminants than in monogastric herbivore.

vi) Health of the animal - Some disease infection affecting the digestive system affecting digestibility eg fowl typhoid.

*Stating = 1mk (5 x 1)*

*Correct explanation = 1mk (5 x 1) = 5*

*Max 10mks*

**26. a) Importance of keeping livestock healthy**

- High quality product, fetches high market prices
- Fast growth/early maturity this ensures long productive life
- Economic to keep saves on expenditure on veterinary service and drugs
- Produce healthy products hence no risk of transmitting zoonotic diseases.
- High yields hence high returns
- Fetch good market prices; hence high returns

*5 x 2 = 10mks*

**b) Reasons for breeding in livestock**

- i) To increase the level of production
- ii) To improve the quality of livestock products
- iii) To improve diseases resistance in the animal
- iv) To develop animals with a high growth rate
- v) To develop animals with high heat tolerance
- vi) To develop animals that matures early

*6 x 1 = 6mks*

**c) Practices carried out on fish before preservation**

- Cleaning the fish
- Removing scales and slime
- Opening the fish on the side to remove the gut and intestines
- Cleaning the abdominal cavity thoroughly
- Keeping fish in open containers