**443/2**

**AGRICULTURE PAPER 2 FORM 4**

**MARKING SCHEME**

**END OF TERM 2 EXAMINATIONS**

**SECTION A (30MKS)**

1. Ways of pruning indigenous cattle

* Proper selection and breeding
* Proper nutrition
* Control of disease and parasites
* Proper housing
* Pasture improvement (4 x ½ = 2mks)

2. Factors to consider when formulating a livestock ration

* Body weight/body size
* Level of production
* Nutrients commotion of a feedstuff
* Age/stage of growth
* Availability of feeds (4 x ½ = 2mks)

3. Methods of identifying pigs

* Ear notching
* Ear tagging
* Tattooing (2 x ½ = 1mk)

4. - Avoid lead poisoning

- To avoid tainting milk if the shed is used immediately after painting

(2 x ½ = 1mk)

5. Reasons for applying oil and grease on a rotary mower

* Reduce tear and wear
* Avoid rust on metallic surfaces
* Reduce friction during movement
* Prolong life of the implement (2 x ½ = 1mk)

6. Harvesting in the removal of all fish from the pond while cropping is removal of marketable size of fish from the pond. (1 x 1 = 1mk)

7. a. Bee diseases

* Acarive disease
* American foul brood disease (2 x½ = 1mk)

b. Smoker (½mk)

8. Livestock disease controlled through artificial insemination

* Brucellosis (contagious abortion)
* Vaginitis
* Vibriosis
* Trichonomiasis (½ x 2= 1mk)

9. a. Types of feeds additives

* Hormones e.g stilbestrol
* Antibiotics e.g tetramycin
* Mediocrants e.g coccidiostat (2 x ½ = 1mk)

b. Reasons for adding feed additives

* Stimulates growth
* Improves food conversion efficiency
* Boosts immunity

(2 x ½ = 1mk)

10. Symptoms of Gumboro disease

* Swollen lymph nodes above the vent
* Respiration distress
* Lower water intake
* Loss of water
* Loss of appetite
* High mortality in hot and humid weather
* Severe immune suppression (4 x ½ - 2mks)

11. Light breeds of poultry

* Skyes
* White leghorn
* Minorca
* Ancona (4 x ½ - 2mks)

12. Methods of harnessing tractor power

* Use of power take off shaft
* Use of hydraulic system
* Us of a draw bar ( 3 x ½ = 1½ mks)

13. Conditions that encourage egg eating

* Idleness of birds
* Failure to collect eggs from the laying nest
* Birds laying collect the floor
* Calcium deficiency in the bird’s diet. (4 x ½ = 2mks)

14. Reasons for curling breeding boar

* Old age
* Poor health
* Infertility /low libido
* To prevent inbreeding
* Bad temperament/aggression
* Poor performance of offspring’s (4 x1/2  = 2mks)

15. Factors to consider when siting milking parlor

* Easily accessible
* A gentle slope
* Calf pen near the shed
* Spacious
* Easy to clean (4 x1/2  = 2mks)

16. Maintenance practices carried out on a wire fence

* Replace broken dropper
* Replace broken wires
* Tighten lose wires
* Replace broken struts
* Smear oil engine oil on posts (4 x1/2  = 2mks)

17. Functions of rumen

* Fermentation of food
* Synthesis of vitamin B complex (B1 B2 B6 and B12)
* Temporary storage of feeds
* Synthesis of vitamin K
* Synthesis of amino acids from ammonia (4 x1/2  = 2mks)

18.i.Roof – prevents evaporation of the dip wash

- Prevent dilution of dip wash by rain water

ii. Sit tap – traps to prevent from getting into the dip tank

19. routes administering vaccines in a day and chick

* Orally (through the mouth)
* By inhaling through the nose
* By injection
* Ocular (through the eyes)
* Through the cloaca

**SECTION B**

**Marking Scheme**

20 Total feed eaten = 120kgs

Losses; faeces = 40 kg

 Urine = 10kg

 Gases = 5kg

 55kgs

Digestibility = (Feed Intake – Losses) x 100

 Feed Eaten

= (120 – 55) x 100

120

= 65/100 x 100

 = 54%

21 a. Part Labeled

M – Piston

N – Crankshaft

P – Differential axle (3 X 1 = 3mks)

b. Function s of Part G.

* Transmits/breaks power from the engine to the selected gear
* Stops the tractor while the engine running for gradual acceleration from rest position
* For gradual engagement of power from the real wheels (2 X 1 = 2mks)

22 a, Practice is –

- Casting an animal (1 x 1 = 3mks)

b. When the practice is necessary

When - castrating an animal

* Injecting an animal
* Dehorning or disbudding
* Branding/placing identification marks
* Hoof trimming
* Doing artificial; insemination (any 4 ½ = 2mks)

c. When an animal is gestating (2 x 1 = 2mks)

23. i. The condition the cow is suffering from

- Milk fever

ii. The mineral deficient (1 x 1 = 1mks)

* calcium

iii. Three characteristics of the above condition

* Unconscious
* Unable to raise
* Neck bent sideways (3 x 1 = 3mks)

**SECTION C**

24 a. Factors to consider when selecting livestock for breeding

* Body conformation
* Fertility of breeding ability
* Adaptability of the breed to the area
* Mothering ability in case of females
* Production potentiality /yielding capacity
* Temperament
* Deformities e.g. mono eye
* Offspring’s performance
* Age of the animal
* Growth rate
* Quality of products
* Diseases resistant
* Life span/productive life
* Proficiency (any 10 x 1 = 10mks)

b. signs of parturition on a sow

* Restlessness
* Los of appetite
* Prepares a farrowing in nest
* Udder enlarges and becomes full
* Vulva reddens and swells
* Muscles on either side of the tail slackens (4 x 1 = 4mks)

 c. State six signs of broodiness in birds (6mks)

* The bird strops laying eggs
* The hen becomes aggressive when disturbed
* Featherless are raised
* Makes sore cracking sound
* The hen starts to make a nest
* Hen picks off the feathers to live the nesting box
* Hen becomes aggressive when eggs are touched

 25. a. Process of digestion in a ruminant

i. Mouth

* Food is chewed to breathe it into small pieces to increase surface area for enzymes action.
* Food is mixed with saliva which contains salivary amylase and lubricates the food
* Salivary amylase /ptyalin converts starch to maltose (1 x 1 = 1mk)

 ii. Stomach

* Food is mixed with gastric juice/pepsin/dilute hydrochloric acid
* hydrochloric acid provides optimum Ph for enzymes renin, pepsin activities and kills micro-organisms ingested with food/Hcl activates pepsinogen to pepsin
* Pepsin breaks down protein to peptides (3 x 1 = 3mk)

iii, Small intestine

* In the duodenum food is mixed with bile and pancreatic juice.
* Bile emulsifies fats to increase the surface area for enzyme action/has salt that neutralize the acid
* Pancreatic amylase converts starch to maltose
* Pancreatic lipase converts fats to glycerol and fatty acid
* Trypsin converts protein to peptones and peptides
* In the rest of the small intestines, food is mixed with intestinal juice
* Peptidase converts peptones and peptides to amino acids
* Maltase converts maltose to glucose
* Sucrase converts sucrose to glucose and fructose
* Lactase converts lactose to glucose and galactose
* Digested food materials are observed in the ileum
* Undigested and indigested food materials than move to the larger intestines for further digestion. (6 x1 =6mks)

. b. Age of animal

* Weather changes
* Animal species
* Physical injuries
* Sex of the animal
* Improper housing
* Body conformation
* Physiological status
* Animal population
* Genetic status
* The breed of the animal
* Type colour of the animal

Stating (1mk)

Explaining (1mk)

Total 10mks

26 a. hand tools are required for constructing of a wooden fence

* Claw hammer – driving in and out nails
* Hand saw - cutting poles to the right length
* Soil anger – digging holes in the ground
* Tape measure – measuring distances
* Rapping rods – ramming posts
* Panga – cutting pegs
* Axe – splitting the posts (5 x 1 = 5mks)

b. Procedure of castrating a bull

* Restrain the animal
* With one hand pull the testes to let them free from scrotal neck
* Using the other hand, place the cusps of the burdizzo to clasp the scrotal neck
* With your free hand locate the spermatic cord of one testes and press the handle of the burdizzo till a snap sound is heard
* Repeat the pressing on the same spermatic cord but at a lower position below the first cut
* Repeat the process of cutting the spermatic cord on the other testes.
* Finally release the animal (7 x 1=7mks)

c. management practices that ensure clean, milk production

* Ensure that milking equipment are clean
* ensure milking shed is clean
* Ensure milk man/woman is clean and healthy
* Test cows for mastitis before milking
* Milk infected cow last and dispose off the milk
* Avoid feeds that taint the milk
* Clean udder and flanks
* Ensure the cow is healthy
* Filter milk to remove physical impurities after milking
* Cool milk immediately to reduce bacterial multiplication
* Cover milk after milking to reduce contamination
* Store milk in a cool dry place.