FORM FOUR

443/2

AGRICULTURE

FORM 4

MARKING SCHEME

SECTION A 30 MARKS

1. State four factors hat determine the strength of concrete in building and construction.
   - Appropriate mixing
   -absence of impurution
   -Duration of drying
   -Size of individual aggregate (1/2 x 4 = 2mks)

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2. State the factors that a farmer should consider when siting a bee hive to prevent swarming. (2mks)

   -availability of water
   Availability of flower
   -sheltered place
   -free from pest and disease
   -away from human and livestock. ½ x 4 = 2mks
3. Name ONE livestock disease that is transmitted by the following parasites (2mks)

   (a) Brown ear tick
   ECF, corridor disease, Nairobi sheep disease (1 x ½ = ½ mk
   (b) Tsetse fly
   -Trypanosomiasis/Nagara (1 x ½ = ½ mk)
4. State two factors that enable ruminants to break Fibrous food materials .(1mk)
   -large Caecum
   -presence of rumen (1/2 x 2 = 1mk)
5. State FOUR breeds of rabbits. (2mks).
   -chichilla
   - carifonia white
   -New Zealand White
   - Ear lope
   - Flemish giant
6. State FOUR essentials of clean milk production. (2mks)

- Clean udder
- Clean milking , clean milking parlar
- -Healthy milking herd
- Clean milk equipment

- -Infected cows be milked last and their milk disposed,
- Avoid feeds that taint milk
- Clean milk man
- Healthy milking man

½ x 4 = 2mks)

7. State FOUR measures that should be taken to control brucellosis in cattle. (2mks)

-Use Al services-

- Culling & slaughtering & well disposal of carcass
- -Vaccination of young animals
- Attendants to avoid contact with aborted foetus
- Hygiene
- Blood test is done & central measures are done efficiently (½ x 4 = 2mks)

8. State FOUR ways of restraining cattle (2mks).

- Use rope/halter/casting
- Use of leadstick & bull ring
- Use of crush
- Use of the yoke
- Use of isolation yard/pen
- Casting

9. State FOUR advantages of battery cage system. (2mks)

-Less feeds due to little excensize
-Easy to coil since less productive birds are detected.
-No bloodness due to less egg contact
-Low spread of parasite and diseases
-Accurate individual bird records can be kept
-High rate of egg production
Vices ae reduces

½ x 4 = 2mks

10. State four maintenance of a Jackplain (2mks)

-Clean after use
-Lublicate the adjustable screw
-sharpening the blade when blant
-Replacing broken parts

½ x 4 = 2MKS

11. State TWO functions of ventilation in a farm house. (1mk)

-Allow air calculation in the house
-Control temperatures in the house
-prevent humid conditions inside the house.

1//2 x 2 = 1mk

12. Define the following terms as used in sheep rearing. (2mks)

(i) Hogget – immature female sheep ½ mk

(ii) Burling – cutting wool around the teats of ewe to enable easy sucking. ½

(iii) Ringing- Cutting wool around penis shealth of rams to facilitate easy mating
(iv) Wigging- Cutting wool around the face of the sheep to prevent wool blindness.
½ x 4 = 2mks

13. State TWO types of selection practiced by livestock farmers. (1mk)

- Mass secretion
- Progency testing
- Contemporary comparation

14. State FOUR factors that lead to long calving interval in cattle. (2mks)

-Poor nutrition
-Poor health
-Incorrect timing of service
-Irregular timing of service
-Irregular heat sign

15. Outline THREE methods of harnessing tractor power. (1 ½ mks)

-P.T.O
- Use of draw bar
- Use of hitchmoot(three point lenkage)
(1/2 x 2 = 1 ½ mks)

16. State TWO causes of small sized eggs in poultry. (1mk)

- Breed characterics (local breeds)
- Age- young pullets lay small eggs
- Nutrition – poorly fed eggs – lay small eggs
(½ x2 = 1mk)

17. State FOUR functions of the lubricating system in a tractor. (2mks)

- Reduce friction/increase efficiency
- Prevents rusting
- Prevents tear & wear\
- Clearing agent
- Reduce heat.

½ x 4 = 2mks

18. State THREE qualities considered when selecting a heifer for dairy purposes (1 ½ mks)

-Triangular in shapes
- Free from physical defect
-Docile
-Well adapted to the region

SECTION B.

19. Study the diagram below of a diesel fuel system then answer the questions that follow.

a) Identify the parts labelled (3mks)

A ___ Air cleaner

B__ Injection pump

C_ exhaust pipe

b) State TWO maintenance practices carried out on the system (2mks)

-Replace, clean and filter as recommended
- Remove & clean sdimentry bowl regularly
-Replace worn out injecture
-Replace dust- air cleaner ` (2 x 1 = 2mks)

20. Below are diagrams of certain parasites. Study them carefully and answer the questions that follow.

a) Identify parasites C.D and E (3mks)
C _ ked
D_ flea
E__ Liverfluke

b) State two categories of the parasites above. (2mks)
-external parasite – ecto parasite
-internal parasite – endo parasite
(2 x 1 = 2mks)

21. Below is an activity carried out in poultry production. Study it carefully then answer the questions that follow.

(a) Identity the practice being carried out/ (1mk)

-egg candling (1 x 1 = 1mk)

(b) State FOUR defects that can be detected by this practice. (4mks)

- Size of air space
- Fertility
- Very porous shell
- Blood spot
- -Double yolk
- Hair cracks (1 x 4 = 4mks)

22. Study the diagram below and answer the questions that follow.

(a) Name the parts labelled M,N,P (3mks)

M_ Crop
N__ proventraculure
P Gizzard (3 x 1 = 3mks)

(b) State one function of parts labelled M & P (2mks)

M_ StoRe food temporalily

- Moisten food

P- crush food into paste.

(2 x 1 = 2mks)

SECTION C (40 MARKS).

IINSTRUCTIONS: All Questions have equal; marks. Chose any two.

23.a. Describe advantages of AI practice in livestock production. (10mks)

- Semen of one male can serve many cows
- Help control breeding disease
- Breeding is easily controlled
- Physically incapacitated animals can as well be used for breeding
- Small cows are not damaged by heavy bulls
- It eliminates dangerous bulls from the farm
- It eliminates the cost of rearing bulls in the farm
- It is cheaper to those who cannot afford superier bull
- It is used as a research tool.
- Semen can be stored & used after the bull is dead
- Breeding is easily controlled

-Breeding diseases are controlled.

1 x 10 = 10mks)

(b) Differentiate between petrol and diesel engine. (5mks)

Petrol	Disel
- It has a carburetor	- It has injection pump
- Fuel & air are mixed in carburetor Before it get into the cylinder	- Fuel & air are mixed within the cylinder
- Fuel air mixture is ignited by an electric spark	- Fuel is ignited by compression of fuel air • Mixture in the cylinder
- It produce little smoke because petrol Is completely burnt	-Produce a lot of smoke because diesel is not completely burnt.
- Petrol engine is light in weight so suited For light duties	- It is relatively heavy in weight thus suited for heavy work.

(1x5 = 5mks)](mark as a whole)

© Describe the components of a spray race (5mks)

- Side wall - support pipping system
- Spray pipe system – series of pipes & nozzles places at regular intervals & strategically – atomize spray.
- Drainage pipe – conduct used chemical back to the pump for recycling
- Pump/reserviour – Tank with agitation pipe & a pump.

Pressure gauge – measure recommended working pressure of the pump.

Animal holding yard – Holding animal & letting them one by one into spray race

Footbath – Removing mud from hooves easily.

Drying yard – Animal stay here to dry to prevent animal from contaminating pasture

(1 x5 = 5mks)

24.(a)Describe FIVE management practices carried out on hedge. (5mks)
- Watering in case of shortage of rain
- Gapping to fill the gaps
-Weed control to minimize nutrients competition
-Trimming to train the fence to look attractive
-Pest control if it is infected by pests
- Disease control if it is infected by diseases
- Application of manure to improve fertility of the soil
5 x 1 = mks)

((b) State the general symptoms of endo parasite attack. (10mks)

- Emaciation
-Decline in production
-Staring/rough coat
-Oedematous in swelling under the jaw
- Diarrhoea
-Pot belly
- persistent cough
- Anorexia/loss of appetite
= Eggs/parasites in feaces
-Depraved appetite/abnormal appetite/ excessive appetite
- Blockage/obstruction of internal organs
-Anaemia

© Describe the uses of various equipments that are used in honey harvesting. (5mks)

(i) -Protective gear- protecting the Apiarist from bee stings

(ii) A honey container with a tight cover used to hold honey combs as they are being harvested

(iii) A hive tool- used to scrap away the propolis holding the top bars together thus separating them

(iv) Bee brash - used to brash off the bees from the honey comb before cutting into the container

v) A smoker – to puff smoke into the bee hive before harvesting honey/

(5 x 1 = 5mks)

(Equipment ½ , Use ½)

25. State the maintenance practices of a mouldbord plough/ (5mks)

- Moving parts should be lubricated
-Shaves should be kept tight & sharp
- Check the bolts & nuts and tighten where necessarily
-Trash and wet soil should be scraped clean or washed
-Unpainted metallic surface should be coated with old engine oil to prevent rusting\
-Worn out parts should be replaced./ replace worn out bolts AND NUTS
(5 x 1 = 5mks)

(b) Describe mastitis under the following sub headings.

(i) AnimalS affected (2mks)

- Lactating cows
-Lactating goats
-Lactating sheep
-Lactating sow

(2 x 1 = 2mks)

(ii) Pre-disposing factors (5mks)

- Injury of the udder
- Level of milk production/high producers are more prone
- -Aged animal
- Stage if lactation – early versus late lactation
- Genetic factors – Some breeds are more prone than others
- - Unhygenic handling of animal or surrounding
- Incomplete milking
- Pendulours udder
- (5 x 1 = 5mks)

(iii) Symptoms of attack (3mks)

- Milk contains pass, blood, thick clots R f turns watery
- Death of infected quarter may result
- Milk has a salty taste
- -When udder and teats are swollen animals react suckling or milking due to pain/\
- (3 x 1 = 3mks)