**MWAKICAN JOINT EXAMINATION TEAM**

**AGRICULTURE FORM 4 PAPER 2**

**MARKING SCHEME**

1. - Rotational grazing
* Hand picking / deticking and killing
* Hand dressing
* Burning pastures / paddocks
* Double perimeter fencing (1x4) 4mks
1. - Hormones e.g. stilbestrol
* Antibiotics e.g. tetranyne

Reg collidiostat medicants 2 x ½ = 1mk

1. (a) Grass tetany – Lack of magnesium ions (mg2+)

 Milk fever - Lack of calcium ions (Ca2+)

 (1/2 mk)

1. - Oxytocin
* Andrenaline (2 x 1/2 = 1mk)
1. (a) - A disease that is highly contagious and infectious and needs notification of the relevant authorities to impose quarantine for its control. (1mk)

(b) - Rinderpest (cattle plague)

 - Anthrax

 - New castle

 - Foot and mouth disease

 - Rift valley fever (4 x ½ = 2mks)

(c) - Filthy sorroundings e.g. wet and muddy areas

 - Sharp objects

 - Overgrown hooves (3 x ½) = 1 ½ mks)

6 - Soldering gun

 - Tins ship

 - Centre punch

 - Hacksaw (4 x ½ ) = 2mks

7. - Smooth shell

 - Medium size

 - Clean

 - Free from abdomalities e.g. blood spot, meat spot, double yolk

- Free from crack

- Fertile egg (4 x ½ = 2mks

8. - Vector control

 - Isolating sick animals

 - Vaccination

 - Use of prophylactic drugs (4 x ½ = 2mks)

9. - Natural rearing

 - Foster rearing

 - Artificial rearing / bucket feeding (3 x ½ = 1 ½ mks)

10(a) - Are those that are transmitted from animal to a man or from man to animal. (1mk)

(b) - Anthrax, Brucellosis, Rabies, Tuberculosis, Rift valley fever, Trichomomasis,

 mud cow disease (2 x ½ = 1mk)

11. - Provide shade to livestock.

 - Cheap and easy to establish

 - Tall varieties act as wind breakers e.g. kai apple

 - Have aesthetic value / beauty

 - Roots hold soil firmly controlling soil erosion

 - Can be used as a livestock feed. (3 x ½ = 1 ½ mks)

12. - To aid in grinding grains into paste by thick muscle of the gizzard. (1mk)

13. - Purity - free from wax, wings / smoke, combs

 - Colour - Brown yellow

 - Viscosity - Not dilute or too thick

 - Smell - Right smell not of rotten combs (4 x ½ mks) = 2mks

14. - Lack of calcium

 - Effects of some diseases e.g. New castle

15. - Mass selection

 - Progeny testing

 - Contemporary comparison (3 x ½ = 1 ½ mks)

16. - Monkey strainer / wire strainer (1x1 = 1mk)

17(i) N - Yolk

 Q - Shell membrane

 P - Egg shell (3 x ½ = 2mks)

(ii) M - Holds the yolk in position (central position)

 L - Air space (supplies air to the developing chick) (2 x 1 = 2mks

(iii) - Prevent germinal disc from sticking on the side

 - Ensure enough ventilation to all parts. (1 x 1 = 1mk)

18. - To prevent warping / bending or twisting

 - To prevent rotting / damage by fungi

 - To protect it from pest attack

 - To make timber achieve its maximum strength (4 x 1 = 4mks)

19.(i) - H - Adjustable spanner

 J - Ring spanner

 Q - Watering can (3 x ½ = 1 ½ mks)

(ii) - Adjustable spanner can be used for tightening / loosening different sizes of nuts while ring spanner can be used to tighten or loosen at least two different sizes of nuts. (1 x 1 = 1mk)

(iii) Causes water to come out in spreading manner hence reducing its impact on seedlings while at the same time avoiding soil erosion. (1 x 1 = 1mk).

20.(a) (i) Entrance / yard

 (ii) Foot bath

 (iii) Dip tank

 (iv) Drainage race (4 x ½ = 2mks)

(b) Exist steps / stairs / lead out stairs. 1 x ½ = ½ mk

(c) part A allows animals to come out of the dip wash / dip tank (1 x ½ = ½ mk)

(d) Cleaning / removing mud or dung

 Changing water when dirty

 Adding more disinfectant (2 x 1 = 2mks

21(a) Artificial incubator (1mk)

(b) - Provide fertilized eggs with suitable conditions for embryoric development (1mk)

(c) (i) Water - Gives required relative humidity (1/2 mk)

 (ii) Thermometer - Determines actual temperature in the incubator (1/2 mk)

SECTION C

22(a) - Keep off animals / domestic animals

 - Add aesthetic value

 - Add value to the farm

 - May provide livestock feeds, fuel and human food

 - Help control pests and diseases

 - Some act as wind breaks

 - Control breeding

 - Control grazing by use of paddocks

 - Marking boundaries

 - Keep off intruders / thieves (1x10 = 10mks)

(b) (i) - Disconnects engine from lest of power transmission system.

 - Interrupts power flow engine, allowing selection of one gear to another.

(ii) - Alters relation between engine speed and wheel speed.

(iii) - Allows one wheel to move faster than the other e.g. corner negotiation, speed

reduction mechanism.

(iv) - Rotates wheels and transmits power from differential to final drive.

(v) - Reduces speed of revolutions for low speed to reach the wheel.

(vi) - Wheel rotates allowing tractor movement, order should be maintained (5x2 = 10mks)

 (Award explanation if identity / structure is correct.

23(a)(i) - Cattle, sheep, goats, pigs (2 x 1 = 2mks)

(ii) - Ingestion of contaminated water / feed with saliva blood.

 - Machinery and animals / human from one form to another. (2 x 1 = 2mks)

(iii) - Rapid rise in temperature

 - Painful blisters in muzzle, udder and mouth

 - Lack of appetite – difficult eating

 - Excessive salivation

 - Lameness and peeling hooves

 - Grinding teeth

 - Dullness and shivering 4 x 1 = 4mks

(iv) - Quarantine

- Report to government authorities

- Compulsory vaccination

- Treat the wounds (2 x 1 = 2mks)

(b) - Rotational grazing / paddocking

 - Regular deworming

 - Spraying / dipping in acaricide

 - Maintaining hygiene / proper sanitation

 - Double fencing

 - Proper meat inspection

 - Proper cooking of meat

 - Proper disposal of human waste / proper use of latrines.

 - Draining of marshy areas / fencing off marshy areas

 - Burning infested pastures during dry season

 - Ploughing infested pastures

 - Hand picking / physical killing

 - Biological control / sterilizing male tsetseflies

 - Applying chemicals to kill parasites and intermediate hosts e.g. copper sulphate to

kill water snails in marshy areas. 10 x 1 = 10mks

24(a) - Use the right tools for the right work

- Handle tools and equipment properly

- Clean tools after use

- Store tools at the right places

- Replace and repair worn out parts of the tools

- Grease moving parts and bearings

- Sharpen cutting edges / digging edges of the tools

- Oil exposed parts to prevent rusting

- Straighten bent blades

- Tighten loose nuts and bolts (8 x 1 = 8mks)

(b) - Ensure brooder corners are rounded.

 - Provide enough brooding space

 - Clean and disinfect brooder and equipment

 - Provide proper guard around heat source

 - Provide proper litter on floor / wood shavings

 - Maintain appropriate temperature according to age of the chick

 - Temperature during first week 32 – 350C, then reduce accordingly.

 - Maintain proper ventilation by adjusting openings.

 - Provide adequate fresh quality feeds / chick mash

 - Provide dim light in the brooder

 - Remove dead chicks

 - Provide adequate and appropriate waterers

 - Control parasites by applying appropriate pesticides

- Control diseases using appropriate method e.g. vaccination.

- Treat sick chicks

- Provide adequate water

- Keep proper records

- Debeak 8 – 10 days towards end of brooding

- Gradual change of chick mash to growers mash during last one week

- Spread newspapers on top of litter for the first few days and scatter feed on them

- Isolate the sick chicks (12x 1 = 12mks