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

2. - Hormones e.g. stilbestrol
   - Antibiotics e.g. tetranyne

   Reg collidiostat medicants 2 x ½ = 1mk

3. (a) Grass tetany – Lack of magnesium ions (mg^{2+})
   Milk fever - Lack of calcium ions (Ca^{2+})
   (1/2 mk)

4. - Oxytocin
   - Andrenaline (2 x 1/2 = 1mk)

5. (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 – 35^0C, 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