

Mumias- West Joint Evaluation Examination

June, 2022

Marking Scheme Agriculture Paper 2 (443/2)

SECTION A.

1. **Tools used for;**

- i. Tightening barbed wires- Monkey strainer/wire strainer.
- ii. Smothering concrete floors- Steel float/wood float.

2.

a) **Adaptations of goats to arid areas;**

- Good foragers hence survive on poor pastures;
- Ability to eat dry feeds;
- Have heat tolerant tissues;

b) **Major features of exotic beef breeds;**

- Blocky/square/rectangular in shape.
- Low set /short legs;
- Thick neck;
- Fleshy body;
- Smaller udders;

3. **Ways through which diseases spread in livestock.**

- Vectors/external parasites;
- Ingesting contaminated water,feed/milk;
- Inhaling contaminated air;
- Contaminated surgical instruments eg scapels,needles,docking knives;

4. a) i) Red water(Babesiosis);

ii) Gall sickness (Anaplasmosis)

b) i) Tape worm (Taenia solium)

ii) Liver fluke (Fasciola hepatica);

5. **Disadvantages of natural mating;**

- It is uneconomical to keep a bull.
- It leads to uncontrolled mating/breeding;
- High risk of transmission of breeding diseases.
- Only small number of cows can be served;
- Large bulls can injure small cows.

6. A- Flushing B- Steaming up; C- Creep feeding

7. a) Reasons for timber treatment;

- To prevent warping/bending/twisting;
- To prevent rotting/damage by fungi;
- To protect them from pest attack;
- To enable timber to achieve its maximum strength;

b) Maintenance practices on water tanks;

- Paint metallic tanks;
- Regular washing of the tank;
- Repair any leakage;

8. a) Notifiable diseases;

- Anthrax;
- Rinderpest
- Foot and mouth disease;
- Lumpy skin disease.

b) Symptoms Anthrax shows after death;

- Lack of stiffness of carcasses/ lack of rigor mortis;
- Production of tar like watery blood from all body openings;
- Extensive bloating.

9. a) Methods of controlling cannibalism;

- Debeaking;
- Making laying nests/boxes dark;
- Feeding balanced diet;
- Hanging greens /vegetables to keep the birds busy;
- Scatter grains on the floor to keep the birds busy.
- Control of external parasites;
- Keeping birds according to age/avoid introduction of new birds;
- Provide adequate space;

b) Conditions that reduce the quality of hatching;

Dirt;

- Abnormal size/undersize/oversize;
- Irregular /broken/soft shells;
- Internal abnormalities e.g double yolk,meaty spots,poor candling qualities;
- Poor storage /long storage beyond 5 days;

c)

- Chicks move away from the heat source;
- Panting/opening beaks;
- Opening of wings /spreading of wings;
- Making abnormal noise;
- Drinking water excessively;
- Chicks may lie flat on their bellies;

10. a)

- Has a laxative value and help to remove the faecal meconium/ first faecal matter/ open up the alimentary canal/ cleance the digestive system/prevent constipation;
- It is rich in antibodies that offers temporary immunity against diseases;
- It is highly digestible;
- It is rich in digestible proteins/fats/minerals/vitamins/highly nutritious;

b) Qualities of good milk;

- Free from disease causing organisms;
- Free fro dirt/ foreign materials;
- Appropriate smell and flavor;
- Chemical composition within the expected standards;

11. a) i) Frog

- To make vertical cut into the soil that separate the furrow slice from the unploughed land;

ii) Landslide;

- Cut trash which would prevent the share from penetrating deep into the soil;

b) Methods of increasing ploughing depth when disc plough;

- Decreasing the angle of the cut;
- Use of hydraulic / draught lever;
- Adding weights on the plough beam;
- Raising the land wheel;

12. a) Ways of utilizing production ration;

- Synthesis/ formation of various products e.g milk,eggs and meat;
- Foetal development;
- For work/ provide draft energy;
- For growth;

b) **Products of fermentation in the rumen of the ruminants;**

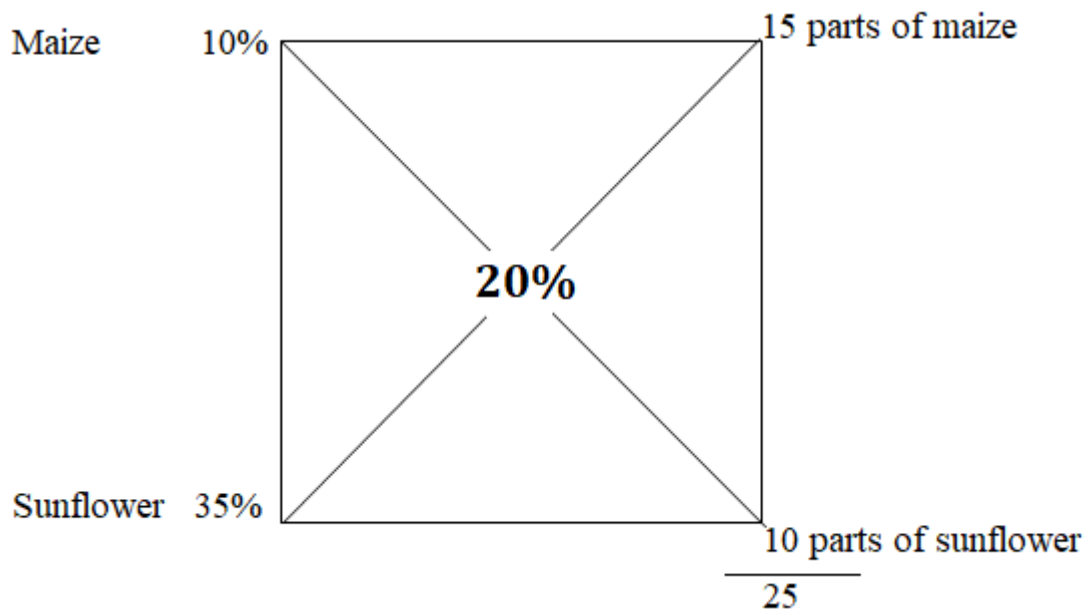
- Ammonia gas;
- Volatile fatty acids;
- Methane/Carbon(IV) Oxide/ hydrogen gas;
- Vitamins B complex and K;
- Amino acids;

13. Uses of a screen in inlet pipe of a fish pond.

- Prevent entrance of strange/undesired species of fish;
- Prevent fish from swimming away from the pond ;
- Prevent predators e.g snakes from entering the pond;

SECTION B;

14.



$$\text{Amount of maize} \quad \left(\frac{15}{25} \times 200\right) \text{ kg} = 120 \text{ kg}$$

$$\text{Amount of sunflower} \quad \left(\frac{10}{25} \times 200\right) \text{ kg} = 80 \text{ kg}$$

15. a) E- Open ended spanner

F- Ring spanner;

b) Use of;

F – Loosening and tightening specific sized nuts and bolts;

G – Digging and collecting manure/trash;

c) Advantages of F over G;

- Provides a more firm grip on nuts and bolts;
- Can work on nuts and bolts in depressions;

16. a) A- Purlin C-Rafter

b) Materials used for D;

- Timber
- Metal / metal bars;

c)

- Fire risk;
- Prone to insect damage;

17. a) implement;

- Disc plough;

b) Name the part;

- H- Beam;
- J- Lower link attachment point;

c) Function of K.

- Counteracts the thrust by the discs to balance the plough;
- helps to adjust the depth of ploughing;

SECTION C.

18.a) Reasons for maintaining livestock healthy;

- Health animals grow fast and mature early;
- Produce good quality products;
- Animals get longer productive life;
- Give maximum production /performance;
- Prevent spread of diseases;
- Healthy animals are economical to keep.

b) Life cycle of the three hos tick;

Requires three hosts to complete life cycle; Females lay eggs on ground; eggs hatch into larvae; larvae climb on the first host; suck blood and get engorged; fall on the ground and moult into nymphs; Nymphs climb onto the second host; suck blood ,get engorged; and fall on the ground and moult into adults; adults climb onto the third host ; suck blood and mate; females fall on the ground to lay eggs;

c) Factors to consider when selecting young female (gilt);

- Good body conformation;
- Should be well adapted to its environment/hardy;
- Good mothering ability;
- High production potential/yielding;
- Good temperament /good behavior;
- Lack of physical deformities e.g mono eyed;
- Good offspring performance;
- High growth rate/mature early;
- Produce quality products;
- Resistance to diseases and parasites;
- Highly prolific/ high prolificacy;
- Long life span/long productive life;

19. a) Management practices in fish rearing;

- Control pollution;
- Controlling water level;
- Fertilizing the pond/manuring;
- Cropping/ harvesting at the right age of maturity;
- Removal of silt;
- Clearing bushes around the pond;
- Maintaining of continuous flow of water/ regular change of water;
- Controll of predators;

b) Procedure of erecting wooden posts in fencing;

- Partial burning /charring of the posts;
- Cut the top in sloping manner;
- Cover the top with a plastic/ metal sheet;
- Reinforce with concrete.

c) BRUCELLOSIS;

a) Causal organism;

- Brucella arbutus/ Bacteria/Brucella ssp;

b) Signs and symptoms of attack;

- Premature birth occurs/abortion;
- Retained placenta;
- Infertility;
- Inflamed testis/orchitis in males;
- Yellow ,brown slimy discharge from the vulva at abortion;
- Low libido in bulls;

c) Control measures;

- Use A.I;
- Culling and slaughtering affected animals and proper disposal of carcasses;
- Stockman should avoid contact with aborted foetus;
- Vaccination;
- Blood test of all breeding animals to detect infected ones;
- Proper hygiene;

20. a) Artificial rearing of chicks one day up to the end of brooding;

- Ensure brooder corners are rounded;
- Provide enough brooding space accordingly;
- Clean and disinfect the brooder house /equipment ;
- Provide wood shavings/proper litter on the floor;
- Temperature during first one week should 32-35, reduce accordingly;
- Spread sheets of newspapers and sprinkle chick mash on them;
- Provide fire guard around the source of heat;
- Maintain proper ventilation by adjusting the openings;
- Provide fresh ,adequate and quality feeds/chick mash;
- Provide adequate and appropriate waters/feeders according to age/ number of birds;
- Remove dead chicks from the brooder;
- Control parasites by applying appropriate chemicals;
- Control diseases appropriately;
- Isolate and treat sick animals;
- Keep proper recordings;
- Gradually change the feed in the last one week in brooder;
- Debeak (8-10) days toward the end of brooding;
- Provide adequate water for chicks;

b) Materials/equipment required for hand milking;

- Udder cloths/towels –washing udder/drying udder;
- Filtering pads –straining milk;
- Milking jelly-applied to teats after milking to prevent cracking;
- Warm water – washing the udder to remove dirt, stimulate milk let down;
- Milking stool –sit on during milking;
- Strip cup/Fore milk cup –necessary for detecting milk abnormalities e,g mastitis;
- Milk can/milk churn –hold milk during milking and temporary storage;
- Concentrates/feeds –to stimulate the milk let down;
- Milking pails/milking bucket –used to hold milk during milking;
- Weighing scale –Determine the amount of milk;

c) Function of gear box;

- Help the driver to select any speed forward or reverse gear;
- Adjust speed of the drive from the engine crank shaft to the drive shaft;
- Helps alter the speed ratio;
- Enables the power from the engine to be more easily applied to the work be done by the tractor;
- Enables the driver to stop the tractor movement without stopping the engine or without foot pressing on the clutch all the time;