

END OF TERM 3 – 2024

AGRICULTURE pp2

MARKING SCHEM

FORM 3

- 1 a) - sporocyte
- redia
- miracidium
- b) -control deficiency diseases
-boost immunity/resistance to diseases

2. a -mohair
-draught / animal power
- b)-prevent licking that causes hair balls
-prevent spread of disease

3. a Well ventilated ;air circulation
 - Spacious; for exercises and feeding
 - Well lit –vit dsynthesis; prevent rickets
 - Leak proof; prevent dumpiness that cause diseases
 - Easy to clean; hygiene that cause diseases
 - Proper drainage; prevent dampness that cause diseases
 - Free from drought; prevent cold pneumonia
- b) **Both bacterial and zoonotic diseases**
 - (i) Brucellosis
 - (ii) Anthrax
- c) live virulent vaccines

live attenuated vaccines
-killed/dead vaccines
-toxoids
4. a. **signs of heat on vulva**
 - swelling and reddening
 - Thick clear mucus discharge
- b) Reason s for inbreeding
 - increase genetic uniformity.
 - to fix required characteristics in new breed.

- To increase phenotypic uniformity
- to get proven sires through back crossing

5 precautions during wool shearing

- Do not make half-cuts/make complete cuts
- Shear sheep during the dry warm season
- Do the operation on a clean dry floor/use clean shearing equipment
- Don not cut body parts

- 5b
- Ration of energy to protein in the feedstuff
 - Form in which the feed is fed to the animal/method of feed preparation
 - Chemical composition of the feedstuff
 - Species of the anima
 - Amount of feed already present in the digestive system of the animal
 - Rate of feeding/frequency of feeding

6 site for fish pond

a)-Gentle sloping land for free flow of water from the source to the pond .

-clay soil is suitable; does not allow water seepage/percolation,

- Reliable source of water.

- b) -Lintel
-foundation

7 calf with breathing difficulty

1. a)• Place salt on the tongue
 - Pour cold water on head and chest to activate the nerves
 - Clear the mucus from the nostrils hold the calf upside down with hind legs and swing
 - Smack the limbs
- b. • High initial construction cost (high capital);
 - Dangerous for young, pregnant sick and heavy animals.
 - Requires a lot of water;
 - Poisoning by swallowed dip wash;
- c) Vaginitis e.g. Bovine trichonomiasis
 - Brucellosis (contagious abortion/Bang'a disease.
 - Vibriosis (Bovine genital campylobacteriosis)

8 a) **drift ;pen lambing**

- Drift lambing is where all the pregnant ewes are put together in one paddock and are separated as they lamb down.

• Pen lambing is where pregnant ewes are only separated from others after showing signs of lambing;

b) milk fever- Calcium;

bloat -Lignin/fibre/cellulose

9 (a) - Shearing of infested sheep

- Routine dipping/spraying with insecticide/ acaricide/ appropriate pesticide.

- Proper hygiene

B) funnel - Addition of chalazae/fertilization; receive ovum

magnum - Addition of thick albumen;

10. a) **Four tools that are used when laying concrete blocks during construction a wall.**

- Plumb bob / plumb line

- Mason's trowel

- Spirit level

- Wood float

b) - Produce high quality carcass

- Is highly prolific

- Grows fast

- Adapted to hot and dry areas.

- Matures early

11 a) **respiratory rate**- Using a spirometer; observing and counting the rate of inspiration /expiration per minute

Pulse rate- Place a finger or thumb on an artery passing on a bone or on the lower edge of the animal jaw.

b) between 6pm 24th/9/024 -12 am 25th /9/024 accept specific time within that range ;this will be after 12 to18 hours ;standing heat

12 (a) **two microbial activities that occur in the rumen.(2 marks)**

○ Food fermentation

○ Synthesis of vitamins(K and B Complex)

○ Synthesis of amino acids

○ Breakdown of proteins to peptides, amino acids and ammonia

○ Breakdown of cellulose and carbohydrates to carbon dioxide and volatile fatty acids

b) **State two characteristics of animals which require a high maintenance ration.(2 marks)**

- Large animals
- Young animals
- More active animals
- Highly productive (yielding) animals

13 State the function of each of the following

Stock and die (½ marks)

- Cutting threads on pipes
- Elastrator –expel the rubber ring during castration .disbudding ;docking

14. **Ringling**: Trimming of wool around the sheath of the penis to facilitate mating in sheep

Raddling: Is the fitting of rams with breeding chutes painted in different colours or painting of rams in different colours on the underside to identify sires of lambs, infertile ewes and ewes with repeated heat;

- 15(a) - inhalation
 -ingestion
 -contact

b)selection ;breeding

-culling

-feeding

-record keeping

-Disease control/treatment

SECTION B (20 marks)

16 (a) **A** – Reticulum/Honey comb

B – Rumen/pouch

(b) **C**: - Absorption of water

- Grinding and sieving food particles
- Temporary food storage

C) pepsin //renin

- 17 (a) • Manganese

b)• Reduced hatchability

- Reduced shell thickness/soft shelled eggs / eggs without shell.

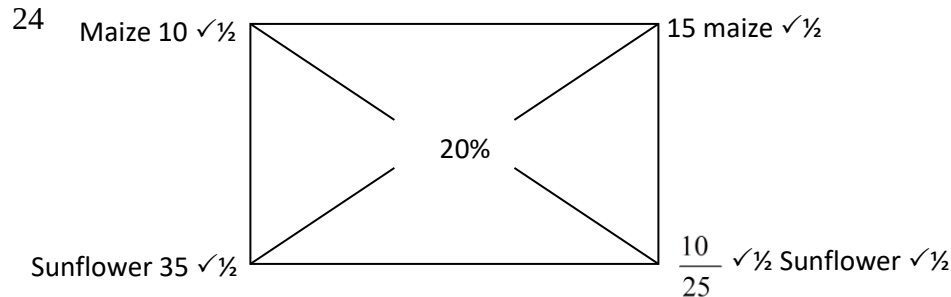
- Reduced appetite

- Reduced growth rates
- Low production
- Egg eating
- Loss of feathers.
-
- 18 (a) A – Purlin;
C - Rafter
- b•Timber/wood / Metalmetal bars
- c)-Cen be damaged by fire
- Cen be damaged wether elements
- Cen be damaged by pest
- 19 (a) Ingestion/ feeding infected pork/beef
- b)
- i. Use ant helminthes / deworming to kill endo – parasites
- ii. ii. Proper hygiene / to avoid contamination
- iii. iii. Proper use of latrines
- iv. Use clean water and food
- v. Proper meat inspection
- 20(a) N – Tank
- P – Delivery hose
- Q – Trigger
- R – Lance
- (b) Functions of S
- Breaks the liquid chemical into desired size of droplets.
- 21. (a) Provide breeding ground for fish
- b) the Container with fingerlings is gradually lowered into the pond and tilted for the fingerlings to swim away.
- 22.(a) K – Urethra
- L – Testes/Testis
- b) Epididymis – stores sperms/male gametes/ spermatozoa

23 (a) $20+30+40+50+1+2+3+4+5=155$

(b) – Notching is painful

- Notched wounds cause secondary infections.



$$\text{Maize} = \frac{15}{25} \times 100 = 120\text{kg of maize } \checkmark\frac{1}{2}$$

$$\text{Sunflower} = \frac{10}{25} = 80\text{kg of sunflower } \checkmark\frac{1}{2}$$

SECTION C : (40 MARKS)

25.a) **Describe the functions of the various types of pens in a piggery unit. (5 marks)**

- **Farrowing pen, for farrowing and rearing piglets.**
- **Boar's pen**, houses the boar and also used for mating.
- **ss-Weaners/fatteners pen**, houses piglets from weaning to marketing stage.
- **Gilts pen**, houses young females up to service age/12 months
- **In-pig pen**, houses pregnant pigs before they are moved to the farrowing pen.

b) **Describe harmful effect of liver fluke in sheep 4mk**

- loss of weight /emaciation
- potbelly/swelling on body
- indigestion due to liver damage
- Damage of liver tissue due to movement of the fluke
- anemic condition due to sucking of large volume of blood; may lead to death
- swollen; painful abdomen
- dullness; animal appears stressed
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c) **Describe procedure of establishing wire fence 6mk**

- clear the fence line 2m wide
- measure and mark points for digging holes, determine the gate position
- dig holes 60cm deep for main fence and 75cm-90cm for corner post
- place treated posts in holes in upright position
- put concrete 1;3;5 ratio /soil /stone in hole ;ram to firm the base

-fix the lower strand of wire using fencing staples and stretch using wire strainer

d) Outline three reason why embryo transfer should be encouraged in dairy cattle breeding. (5 marks)

- The calf is born in the local surrounding to minimize effects of climatic changes.
- It is possible to screen and marked sexed embryos to minimize the number of male calves
- It controls sexually transmitted diseases/breeding diseases
- Embryos can be stored for a long time awaiting for a recipient female
- It allows faster multiplication of a superior animal/breed i.e. a cow can produce 12-15 embryos per year.
- It stimulates production of milk in females that were not ready/able to produce milk.
- Can be used as a study/research tool on a given sire/dam because many offsprings can be produced within a short time for observation.
- It allows the embryo to obtain passive immunity from the surrogate mother. - The use of embryo saves the cost of production on rearing bulls - Embryos are cheaper than animals of equal value.
- Embryo are easy and cheap to transport in test tubes compared to live animals.
- High yielding embryos can be implanted into less valuable females to improve production in the calves obtained.
- Easy to plan for breeding
- Prevents injury of cow by heavy bulls.

26(a) Describe procedure of harvesting honey from Kenya top bar hive. 6marks)

- i)-Approach the hive quietly from the back and blow 2-3 smoke puff using smoker
- ii)-remove the hive cover /roof
- iii)-remove the top bars one t time using hive tool
- iv) -gently shake off bees/brush them off using bee brush
- v)-cut the ready combs using hive knife into the container
- Vi)-leave 3cm combs and some honey in the hive
- Vii-return the bars and the cover into position

Nb; procedure/sequence must be correct

b) Explain three disease control routine management practices in livestock production . (3 marks)

- Spraying with appropriate acaricides to control external parasite/ticks /vectors

- Drenching with antihelminthes to control internal parasites
- Vaccinate as appropriate against diseases like ,rinderpest, newcastle, foot and mouth
- Proper selection ; breeding
- Isolation of the sick animal's to prevent spread of disease
- Quarantine; to restrict movement of animals ;products during outbreak of disease
- Culling the sick ;to prevent the spread to healthy animals
- Proper housing to prevent cold ;that cause disease
- Proper feeding end nutrition; boost immunity; prevent deficiency
- Proper hygiene/cleaning animal houses

c) Describe three indicators that can be observed on a goat to confirm sickness. (3 mark)

- o By checking the appetite and feeding if low or excessive it indicates that the goat is sick.
- Defaecation – inconsistency in texture, colour, smell, frequency and posture, presence of parasite segments, egg, larvae or blood.
- Urination – irregular posture, colour and frequency;
- Change in temperature above or below the normal range;
- Respiratory rate- irregular respiration shown by non-rhythmic inspiration and expiration indicates ill health.
- Pulse rate – abnormal pulse rate under normal physiological status indicates ill-health.
- Production level – loss of weight, emaciation and reduced production rate. ➤ Abnormal discharges; (tears, mucous, saliva)
- Posture – Abnormal while standing or lying down.
- Behaviour – Excitement, aggressiveness, abnormal sounds.
- Appearance – Dullness, restlessness, pot belly, bloated stomach.
- Movement/Gait – limping, straining while walking.
- Mucous membrane – pale, bright red/yellow/bluish/dry.
- The skin/coat starry/rough coat, swelling of the skin or sores on the skin.

d) Explain four factors that should be considered when siting a farm store. (4 marks)

- Accessibility – should be easily reached from most part of the farm.
- Drainage – Well drained to avoid dampness in the store.
- Security – should be secure from predators and thieves.
- Relationship with other structures – should be close to others with related functions to save on time and labour.
- Proximity of amenities – should be near water/electricity supply.

- Topography – gentle sloping to save costs on leveling/facilitate drainage. (5 x 1= 5 marks)

e) Outline four disadvantages of artificial insemination. (4 marks)

- □ ➤ Harmful traits can be spread quickly by one bull to the offsprings sired;
- Requires skilled labour;
- Low chances of conception;
- More laborious than natural mating;
- Difficult to detect heat signs;
- Storage and transportation equipment are expensive.

27 a) outline five differences between ruminant and non-ruminant digestive systems. (5 marks)

- Chew the cud - Do not chew the cud.
- Four chambered stomach/polygastric - One stomach.
- Regurgitates food - Does not regurgitate Can digest cellulose Cannot digest cellulose except animals with functional caecum; ➤ Lack ptyalin in saliva - Have ptyalin in saliva.
- Digestion and absorption mainly - Occurs in the small occurs in the rumen. intestines.
- Have alkaline saliva - Saliva is neutral

b) Describe the life cycle of a red legged tick. (5 marks)

- Eggs on the ground hatch larvae which climb onto the first host and feed on blood become engorged;
- Engorged larvae moult into nymphs which feed on blood on same host;
- Engorged nymphs drop to the ground to moult into adults;
- Adults climb on the second host feed on blood become Engorged and mate; . Engorged female falls to ground and lays eggs; 5x1 =5 mk

Nb; procedure/sequence must be correct

c) Describe three management practices carried out on a fish pond. (3mark)

Control water pollution; by regular cleaning to remove foreign particles

Harvest at the correct maturity stage

Maintain appropriate water level in the fish pond always

Aerate the water by ensuring constant inflow and outflow of water

Plant grass on the dykes to prevent soil erosion

Control weeds by removing growing weeds around the pond
 Proper fencing of the pond ; replacing the damaged post ;wires
 Supply adequate feeds regularly
 Control stocking rate/cropping
 Regular fertilization of the pond
 Control predators
 Removal of undesirable vegetation
 Removal of silt
 Planting grass where necessary
 Repair broken dykes/broken fences

d) Describe the East Coast fever under the following sub-headings;

I) Vector (1 mark)

(i) Vector-Brown ear ticks; Rhipicephalus appendiculatus

ii Causal organism; (1 marks)

Protozoa/Theileria parva;

iii) Signs of attack; (3 marks)

Swollen lymph nodes;

- Profuse salivation;
- Fever;
- Lachrymation;
- Labored breathing;
- Hemorrhages in the vulva and mouth;
- Coughing;
- Impaired vision;
- Reduced appetite

• iv)Control measures. (2 marks)

- Tick control/dipping/spraying/de-ticking/rotational grazing
- Treatment using appropriate drugs e.g. chloron tetracycline, pentexione, auxy- tetracycline, clexione, butalex.
- fencing t keep strange animal's away

(2 x 1= 2 marks)