**MARKING SCHEME AGRICULTURE PAPER 2.**

**DECEMBER EXAM 2021**

**SECTION A; (20MKS).**

**1. Maintenance practices done on wheelbarrow.**

*-Tighten loose nuts and bolts for efficiency.*

*-Repair broken handles to increase efficiency.*

*-Replacing worn out parts for efficiency and prevent injuries.*

*-Cleaning after use to remove dirt.*

*-Apply old engine oil to prevent rust.*

*-Painting metallic parts to prevent rusting.*

*-Greasing /lubricating moving parts to reduce friction.*

*2a)* **Mohair goat breed**

*-Angora.*

***b)* Characteristics of Bacterian camel breed.**

*-It is heavily built.*

*-It has two humps.*

*-Has a long coat of wool-like hair.*

*-Has relatively shorter legs.*

*-Absence of trap-nose.*

**3. Rabbit breed**

*-Newzealand white.*

*-Carlifonia white.*

*-Flemish giant*

*-Chinchilla.*

*-Rex.*

*-Angora.*

*-Earlops.*

**4. a) Methods of maintaining good health in livestock**

*-Proper feeding*

*-Prophylaxis.*

*-Quarantine incase of notifiable disease*

*-Proper housing of livestock*

*-Control of parasites.*

*-Routine vaccination.*

*-Use of healthy breeding stock*

*-Timely treatment.*

*b)* **Vaccination***-Is the administration of weakened or killed disease*

*causing organisms (agents) into the body of an animal to induce*

*production of antibodies for immunity against diseases.*

*5.***Symptoms of internal parasites***.*

*Staring (rough)coat.*

*Coughing.*

*Eggs and parasites seen in faeces.*

*Emaciation /loss of weight.*

*Pot-bellies.*

*Aneroxia/ loss of appetite.*

*Dehydration.*

*Anaemia/ pale mucosa.*

*Oedema/ swelling of the lower jaw.*

**6. Methods of computation of livestock feeds.**

*-Trial and error method.*

*-Use of Pearson’s Square method.*

*7.D***isadvantages of natural mating method.**

*-Uneconomical to keep a bull.*

*-May lead to uncontrolled mating/breading.*

*-High risk of transmission of breeding diseases,*

*-Only small number of cows can be served.*

*-Large bulls may injure small cows.*

*8.***a) Ringing-***Is the trimming of wool around the sheath of the penis to facilitate mating in sheep while* **Raddling** *is the fitting of rams with breeding chutes painted in different colours on underside to sires of lambs, infertile ewes and ewes with repeated heat are easily identified.*

*b)* **Tupping-***is an act of mating In sheep and goats while* **serving** *is an act of*

*mating in cattle and pigs.*

**9. a) Methods of harvesting fish***.*

*-Use of fish nets*

*-Use of hooks*

**b) Roles of Queen bee.**

**-***Lay (fertilized) eggs*

*-Produce phenomones to keep colony together.*

**10.Maintenance practices done on a wire fence.**

*-Straightening loose or sagging wires using wire strainer*

*-Broken wires should be spliced.*

*-Worn out posts should be replaced .*

*-Broken brace posts and droppers should replaced*

*11***. a) Notifiable diseases in cattle.**

**-***Anthrax. – Rinderpest*

*-Foot and mouth disease*

*-Lumpy skin disease.*

**b). Routes for entry of pathogens into animal’s body.**

**-** *Oral (mouth)*

*-Broken skin (wounds).*

*-Nasal (nose*

*-Ocular (eyes).*

*-Anal*

*-Ears.*

*-Reproductive organs.*

*-Umbilical cord*

*12***. Methods of killing birds for marketing**

**-***Dislocating the neck*

*-Killing with a sharp knife.*

**13. Advantages of single housing in calf rearing**

*-To prevent formation of hair balls I the rumen through licking each other*

*-Prevent spread of worms and disease.*

*- prevent spread of diseases.*

**14. Rules (principles) to be observed during milking.**

*-Milk quickly and evenly*

*-Milk at regular times*

*-Avoid use of wet hands*

*-Complete milking.*

**15. Homegenisation** *is the process by which fat globules in milk are broken mechanically into smaller fat particles which are distributed evenly in the milk while* **Pasteurisation** *is the heating of milk and then cooling it immediately to destroy harmful bacteria.*

*16.* **Disadvantages of using animal power over tractor power.**

**-***More tedious than tractor implements.*

*-More than one person is required to guide the plough and animals while tractor require only one person.*

*-Animal drawn implements are slower than tractor drawn implements.*

*-Animals get tired slowing down the work.*

*-Diseases in some areas makes it difficulty to use some animals.*

*- Farmer requires extra piece of land to grow fodder crop and pasture for animals.*

**17. Long term tractor services.**

*-Engine oil should be drained completely from the sump and replaced with new one after prescribed period of time.*

*-Steering,gear box oil should be inspected and filled if the level is bellow the*

*recommended one.*

*-The differential oil should be replaced as recommended.*

*-Linkage and pulley attachments should be greased.*

*-Pulley oil should be inspected and added if necessary.*

*-Dirt oil should be removed and replaced with new one.*

**SECTION B; (20MKS).**

*18 .a) C-Ball pein hammer*

*D- G-Clamp. b***) Use of C**

*-Straightening bent metal surfaces.*

*-Striking on the head of cold chisel.*

**c) .Maintenance of tool D.**

*-Cleaning after use to remove dirt.*

*-Greasing/ lubricating moving parts to reduce friction.*

*-Paint/ apply oil to prevent rusting.*

**19. a)**

**-***Fasciola spp/ Fasciola hepatica/ Fasciola gigantica/ Liver fluke.*

**b) Disease**

**-***Fascioliasis*

**c) Control measures.**

**-***Control of secondary host/ fresh water snails.*

*-Drenching/ deworming/ use of antihelmentics,*

*-Burning of pastures during dry periods.*

*-Avoid grazing in marshy / swampy areas.*

*-Draining of swampy areas or leveling any depressions that may hold water.*

**20. a) Deficiency disease.**

*-Milk fever.*

**b) Deficiency element.**

*-Calcium.*

**c) Other symptoms**

*-Animals chewing wood, bones and stones*

*-Weak and bristle bones/ oesteomalacia.*

*-Rickets.*

*-Loss of weight.*

*-Pain.*

*-Muscular weakness*

**a) Parts of an egg.**

*B- Inner shell membrane. C- Outer shell membrane. D- Albumen/ egg white.*

*F- Chalaza.*

**b) Qualities for part A for incubation.**

**-***Smooth texture of the shell/ smooth shell.*

*-Absence of cracks on the shell.*

*-Absence of blood stains/ clean shell.*

*-Oval shape.*

**c) Functions of part E.**

*-Provides nutrients for the developing embryo/ chick.*

**SECTION C; (40MKS)**

**21 a) Importance of keeping livestock.**

*-Source of food.*

*-Source of raw material for (leather) industry.*

*-Source of animal power (draught).*

*-Form of exchange.*

*-Used for cultural purposes/ payment of dowry/ ceremonies.*

*-For recreational value/bull fighting/ cock fighting/ racing.*

*-Symbol of wealth*

**b) Indicators of sickness in sheep.**

*-By checking appetite and feeding-if low or excessive indicates sickness.*

*-Defaecation-inconsistence in texture, colour, smell, frequency and posture, presence of parasite segments ,eggs, larvae or blood.*

*-Urination-irregular, posture, color and frequency.*

*-Change in temperature above or below normal range.*

*-Respiratory rate- irregular respiration shown by non-rhythmic inspiration and expiration indicates sickness.*

*-Pulse rate-abnormal pulse rate under normal physiological status indicates illness.*

*-Abnormal discharges.*

*-Abnormal posture – while standing or lying .*

*-Behaviour- abnormal sound,aggression,excitement.*

*-Appearance- dullness,restlessness,pot-belly,bloated.*

*-Movement- gait,standing or limping when walking/ lameness,*

*- Mucous membranes-abnormal e.g bright red,yellowing,bluish dependingon the disease*

*-Skin/ animal coat- (abnormal) staring hair/ coat. Sores/ wounds on the skin.*

**c). Reasons for feeding livestock.**

*-Provide energy / maintenance of body temperature***.**

*-For growth and repair of body tissues.*

*-For maintenance of good healt*

*-For production of various products /*

*-Enhance reproduction..*

**d) .Factors to be considered when siting a farm store.**

***-Accessibilty-****should be easily reached from most parts of the farm.*

*-****Drainage****-well drained to avoid dampness.*

*-* ***Security****- should be protected from predators and thieves.*

*-****Relationship with other structures.-****should be close to others with related functions to save on time and labour.*

*-****Proximity to amenities****- should be near water/ electricity supply.*

***-Topography****- gentle sloping to save costs of leveling/ to facilitate drainage.*

**23. a) Stocking of newly constructed pond.**

*-Inlet channel/pipe should be opened to allow fresh water to fill the pond slowly.*

*-Add manure /fertilizer to encourage growth of planktons.*

*-Fingerlings are introduced after 4 weeks when planktons and other water plants are grown.*

*-Fingerlings are obtained from recognized hatcheries and transported with care at about 100 celcius.*

*-The fingerlings are then introduced into the water during the day when temperature is almost the same as that of the waterin the container it was transported in.*

*-Lower the container into the pond and let it stay for some time for acclimatization.*

*-Tilt the container to allow the fingerlings to swim out into the water.*

*-Stock at an average rate of 5-10 fingerlings for 5m2.*

*-Add lime to the pond.*

**b) Signs of heat in cattle**

*-Restlessness.*

*-Mounting others and when mounted stand still.*

*-Slight drop in temperature.*

*-Slight drop in milk yield.*

*-Vulva swells and becomes reddish.*

*-Clear slimy mucus discharge from the vulva*

*-Frequent mooing / bellowing*

**23.c) Management of growers.**

*-Provide adequate space;*

*-Provide adequate feeders /waterers.*

*-Deworming / control of internal parasites.*

*- Provide grains / hang vegetables to keep birds busy.*

*-Provide litter on the floor upto 15cm deep.*

*-Provide growers marsh ad lib.*

*-Provide plenty of fresh water.*

*-Dust the birds with appropriate insecticides to control external parasites.*

*-Keep the litter dry to avoid dampness.*

*-Provide grit or oyster oil shells towards the end of grower’s stage / 12 weeks.*

*-Gradually introduce layer’s marsh from 16th -19th weeks.*

*- Maintain hygiene*

**24. a) Factors affecting milk composition.**

**-Age of the animal-** *butter fat content becomes less as animal grow old thus young animals produce milk with high B.F than old ones.e.g Jersey produces milk with the highest B.F and Friesian the lowest.*

*-***Diseases-** *e.g mastitis reduce lactose composition in milk because bacteria attack milk sugar.*

*-***Physiological condition of the animals-** *Sick/extremely emaciated animals registerlow percentage of B.F/ during late pregnancy cows produce milk with low B.F***.**

**-Stage of lactation***- B.F content in milk is the highest at the middle phase period and lowers towards the end oflactation.*

**- Completeness in milking** *–milk drawn last from the udder contains the highest*

*B.F content.*

*-***Season of the year** *– B.F content increases during cold seasons.*

*-***Type of food eaten** *–Roughage produces milk with higher B,F,hiher lactose and proteins as compared to animals fed on grains.*

*-* **Time of milking** *–milk produced in the morning contains low B.F as compared to milk done in the evening.*

**b) BRUCELLOSIS DISEASE**

**i) Causal organism***.*

*-Brucella abortus/ Bacteria/Brucella spp.*

***ii) Signs of attack.***

*-Premature birth occurs/ abortion.*

*- Retained placenta.*

*-Infertility.*

*-Inflamed testis /orchitis.*

*--Yellowish , brown slimmy discharge from the vulva at abortion.*

*-Low libido in bulls.*

**Iii) Control measures.**

*-Use of A.I .*

*-Culling and slaughtering affected animals.*

*-Vccination.*

*-Stockman should avoid contact with aborted foetus;*

*-Blood test on all breeding animals to detect affected ones.*

*-Proper hygiene.*

**c) Various sources of power on the farm.**

*-Human power.*

*-Animal power*

*- Wnd power*

*-Water power*

*-Biomass/ wood/charcoal/biogas.*

*-Solar radiation.*

*-Electrical/hydropower/battery*

*-Fossil fuel/ petroleum/coal/natural gases*

*-tractor/engine power/*