**MARKING SCHEME BUNAMFAM NOVEMBER 2021**

**AGRICULTURE**

**FORM FOUR PAPER 2**

1. Tools used when laying concrete blocks during construction of a wall.

 - Plumb bob/plumb line

 - Mason’s trowel

 - Spirit level/pipe level

 - Wood float/steel float

 - Masons square

 - String/masons line/line (4 x 1/2 = 2 marks)

2. Importance of guard rails in a farrowing pen.

 - Prevents sow from crushing piglets .

 - Prevents sow from eating creep feeds. (1 x 1 = 1 mark)

3. Reasons for having foot bath in a cattle dip.

 - Clean the feet of animals

 - Control foot rot Rej. Control of diseases (2 x 1/2 = 1 mark)

4. Crutching and ringing

 - Crutching is the cutting of wool around the external reproductive organs of a female sheep to facilitate mating

 - Ringing is the cutting of wool around the sheath of the penis in rams to facilitate mating.

 (Mark as a whole 1 mark)

 5. Signs of kindling in a doe.

• Nest building

• Plucking of fur From the body

• Lose of appetite.

 • Restlessness. (4 x ½ = 2 marks)

 6. Developmental stages of liver flukes in a fresh water snail.

 • Sporocyst.

•Cercaria

 •Redia. (2 x ½ = 1mark)

 7 .Uses of a spring -tine harrow.

 -Levelling the seedbed.

 -Breaking soil clods.

 -Burying trash

 -Aerating the soil.

 (4 x ½ =2 marks)

 8.Signs of mite attack in poultry,

• Irritation/scratching of the body.

• Anaemia,

• Presence of mites below the plumage in patches.

• Falling off of feathers.

' Dermatitis due to burrowing effects.

• Formation of crusts. (4 x ½ = 2 marks)

 9.Advantages of natural feeding in calf rearing.

•Calf takes milk at body temperature,

•Milk is free from contamination

• it prevents scouring in calves.

•Milk is provided ad libitum. (3 x ½ = 1 ½ marks)

10. Ways in which infectious diseases can spread

 - through vectors

 - through ingestion of contaminated food and water/through food and water

 - Through contact

 - Through inhalation of contaminated air/through air. (3 x 1/2 = 11/2 marks)

11. Reasons for castration

 - Prevent uncontrolled mating.

 - Improve the quality of meat

 - Promote faster growth/facilitate weigh gain

 - Make then docile

 - Control breeding diseases

 - Control inbreeding (4 x 1/2 = 2 marks)

12. Characteristics of roughages

 - Bulky

 - High fibre content

 - Low nutrient content

 - Low digestibility

 (4 x 1/2 = 2 marks)

13.. Functions of the crop in poultry digestive system.

 - Softening/moistening food

 - Temporary food storage. (2 x 1/2 = 1 mark)

14. Roles of worker bees .

 - Kills the drones after mating the queen

 - Scouting for a new home

 - collect nectar/water/gum/propolis/pollen

 - Make honey combs

 - Protect the colony

 - Clean the hive

 - Make honey and bees wax

 - Seal the cracks and crevices. (4 x 1/2 = 2 marks)

 15.. Reasons for controlling livestock diseases.

 - Reduces spread of livestock diseases/production of healthy young ones

 - Promote fast growth and early maturity - rej to maintain good health in livestock

 - Make them have long productive life.

 - Improve quality and safety of products

 - Improve quantity of products

 - Reduce cost of production. (4 x 1/2 = 2 marks)

16 Caponisation in poultry.

 -Surgical /open method.

 -Implanting pellets of the female sex hormone beneath the skin of the bird.

 -Injecting with stilbestol hormone when whey are one day old.

 (3 x ½ = 1 ½ marks)

 17. Advantages of using animal power.

• Animals are cheap to acquire /maintain.

• Require less skilled labour.

• Can be used on,small holdings.

• Are appropriate in very steep areas. (4 x ½= 2 marks)

 18. (a) Blue ticks - Anaplasmosis

 (b) Brown ear ticks - E.C.F,

 (c) Tsetse flies - Trypanosomiasis (nagana) (3x ½ =1 ½ marks)

 **SECTION B**

 19.. ( a) Dry cow therapy. (1mk)

 (b) At the end of drying off. (1/2 mark)

 (c) • teat dipping

 • complete milking

 • proper milking technique

 • applying milking jelly after (2x1=2 marks)

d) Hypodemic needle and syringe

 20.

20%

soya bean

04 parts

 2 4 parts in total

Soya bean

40% DCP

Rice

20 parts

Rice

16% DCP

 Rice - 20/24 x 100 = 83.3 kg

 Soya bean - 4/24 x 100 = 16.7 kg (1 x 5 = 4marks)

21. a) A-.Furrow wheel /Rear depth wheel / Control wheel /Thrust wheel

 B .Beam

 C -Disc

 D-Disc scrapper

 b) A -Controlling ploughing depth

 -Stabilising the plough/controlling side thrust

 D -Asisting in furrow slice inversion.

 -Removing soil from the disc during ploughing

 c) Disc plough

22. a) Causes of chicks’ behaviour in the illustrations A, B and C.

 A-Presence of draught makes the chicks to crowd on one side of the brooder

 B-Cold/inadequate heat makes the chicks to crowd around the heat source.

 C-High/Excess heat makes the chicks to move away from the heat source.

 (3 x 1 = 3 marks)

 b) Reasons for making brooder wall round in shape.

 - To discourage overcrowding of chicks at the corners to avoid suffocation.

 (1 x 1 = 1 mark)

 c ) Requirements of a good brooder.

 -Should have enough feed and water troughs

 -It should be well aerated.

 -Should be spacious enough

 -It should be easy clean

 -It should be properly drained. (4 x ½= 2 marks)

 **SECTION C.**

23. . Factors considered when culling livestock.

 • Cull livestock of:

 • Poor health;/chronic sickness

 • Old age;

 • Physical deformities;

 • Hereditary defects;

 • Infertility;

 • Poor mothering ability

 • Poor quality products;

 • Low production;

 •Bad temperament. (1 X 5 = 5 marks)

 (b) Description of poultry management under:

 (i) Cause of stress.

 • Any sudden change in routine

 • parasite infestations

 • Lack of food and water

 • Strangers and predators in the birds' house.

 • Sudden noise such as passing tractors and thunder.

 • Poor handling of birds during routine practices.

 • Overcrowding which leads, to competition for space.

 •Sudden climatic changes

 • Poor lighting in poultry house.

 • Inadequate laying nests. (1x8 marks )

 (ii) Control measures for cannibalism

 • Control external parasites.

 • Keep birds busy by hanging green leaves or vegetables in the house.

 • Feed the birds on a balanced diet.

 • Provide adequate floor space.

 • Provide adequate laying nests.

 • Provide dim lights in the brooder.

 • Keep birds as per the age group.

 • Debeak hens which peck others.

 • Cull perpetual cannibals. (7 x 1 = 7 marks)

24. a) Use of the various parts of a zero grazing unit in dairy farming.

 - Milk recording room - weighing and milking records

 - Milking stall - rearing calf to weaning

 - Calf pen - rearing calf up to weaning

 - Sleeping cubicles - provide shelter and warmth

 - Loofing area - dunging, feeding, exercise and sunning

 - Feed and water troughs - feeding and watering the animals

 - Feed preparation room - preparing feed rations and cropping fodder rej. chaff cutter region

 - Store - storing/keeping dairy equipment/feeds

 - Manure storage areas storing measure.

 Parts is tied to the function

 ( 6 x 1 = 6 marks)

b) Trypanosomiasis Disease under the following sub-headings.

 (i)Cause.

 -Protozoa .-*Trypanosoma spp*

 -*Trypanosoma brucei.*

 *-Trypanosoma evansi.*

 (ii)Animals affected.

 -Cattle.

 -Sheep.

 -Goats

 -Horse.

 -Pigs.

 (iii)Symptoms of attack.

 -Fever.

 -Loss of appetite/anorexia.

 -General boby weakness.

 -Swolen lymph nodes

 -Lachrimation which leads to blindness.

 -Diarrhoea.

 -Rough coat and sometimes without hair and may be cracked.

 -Swelling in parts of the belly.

 -Drop in milk production.

 -Loss of hair at tail end.

 - Anaemia.

 -Abortion may occour in pregnant females.

 (iv) Control measures.

 -Treating animals with trypanocidal drugs.

 -Effective vector (tsetsefly ) control .

 -Confinement of wild animals in game parks.

25. a) Characteristics of a poor layer.

 - Combs and wattles - small/shrivelled/shrunken. dry scaly and place.

 - eyes - dull and pale yellow.

 - Beak - yellowish in colour.

 - Abdomen/breast - hard and full

 - Vent - round, dry and less active

 - Space between keen and pelvic bone - small and fits only one or two fingers

 - Plummage - preened & glossy (smooth) beautiful

 - Moulting - early moulting

 - Shanks/feet - Yellowish in colour

 - Broodiness - Is common/early moulting

 - Temperament - easy and dull

 - poor layer is inactive.

 Mark as a whole (10 x 1 = 10 marks)

b) Characteristics of clean milk

 - Free from disease causing micro-organisms/pathogens

 - Free from hair, dirt or dust./contamination.

 - Free from bad odours and tastes/has good flavours.

 - Chemical composition within expected standards. (3 x 1 = 3 marks)

 -White in colour.

 ii) Factors influencing milk composition

 - Age of animal

 Butter fat in milk becomes less as an animal grows old thus young animals produce milk with higher BF than older animals.

 -Breed differences rej. species of the animal

 Different breeds of cattle produce milk with differing percentage composition e.g Jersey produce higher BF than Friesian.

 - Type of food eaten by an animal

 Roughage feeds produce milk with higher fats, lactose and protein compared to grains.

 - Diseases

 Diseases such as mastitis reduce the lactose composition in milk because bacteria attack milk sugars.

 - Physiological condition of the animal.

 Sick/extremely emaciated animals register low percentage of BF/during late pregnancy cows produce milk with low BF content.

 - Stage of lactation

 The BF content in milk is highest at the middle phase of the lactation period and lowers towards end of lactation.

 - Completeness of milking

 Milk drawn last from udder during contains high BF content/last drop milk has BF content produce in the milk.

 - Season of the year - accept environmental condition

 BF content increases during cold seasons.

 -Time of milking

 Milk produced in the morning has a lower BF content than milk produced in the evening

 (1/2 factor ,1/2 mk explanation) (7 x 1 = 7 marks)