**AGRICULTURE 443/2 MARKING SCHEME**

1. - Teeth setting should be done
* Tighten loose screws and nuts
* Straighten the blade when bent
* Hang the saw properly after work to prevent possible damage
* Oil the blade when storing for long period to prevent rusting
* Clean after use
* Replace or repair broken handles
* Regular sharpening of the teeth should be done

 ***(Any 3 x ½mks)***

1. - They have no humps

– They have low tolerance to high temperatures hence they are popular in cool climate of the Kenya highlands

* They are highly susceptible to tropical diseases
* They have fast growthrate leading to early maturity
* They are good producers of both meat and milk
* They cannot walk for long distances
* They have short calving intervals of one calf per year if well managed
* They are heavy milkers
* They have long lactation periods
* They have big bodies

 ***( Any 4 x ½ =2mks)***

a – Calcium **( *½ mks)***

b – Phosphorous **( *½ mks)***

c- Magnesium **( *½ mks)***

d- Zinc **( *½ mks)***

a – Metacercaria **( *½ mks)***

b- Cysticercus cellulosae/bladder worms **( *½ mks)***

5. A roughage is a feedstuff with high fibre content and low in protein while a concentrate is a feedstuff with a high protein or energy content and low crude fibre content.

 ***( Mark as whole)= 2mks)***

 6. – To provide nutrients for maximum foetal growth

 - To build up energy for parturition

 - To ensure birth of a healthy calf

 - To promote good health of the mother

- To increase and maintain high yield after parturition

***(4x ½ = 2mks)***

7. – It no longer crows

 - Combs and wattle become smaller

 - No longer fights

***(3x ½ = 1½mks)***

 8. – It is durable

 - Resistant to fire

 - Resistant to insect damage

 - Resistant to weather elements

 - Strong

 - Can easily be moulded to required shapes

***(3x ½ = 1½mks)***

9. – Is the duration between the time of infection

 and the time the first symptoms show up ***(1mks)***

10.- Gradual change in feed

- Control of diseases and parasites

 - Handle the birds properly

 - Provide adequate feed and water to birds

 - Ensure proper floor space

 -Insulate the poultry house to maintain uniform

 Temperature

* Gradual change in routine practice
* Locate the poultry house in appropriate place free from noise
* Seal the house against predators

***(4x ½ = ( 2mks)***

 11. - Human power

* Animal power
* Electrical power
* Wind power
* Water power
* Biogas

 ***(4x ½ = ( 2mks)***

 12. - Local slaughter house

* Livestock marketing division
* Kenya Meat Commission

***(3x ½ = ( 1 ½ mks)***

 13. Bactrian Camel Dromedary Camel

 - two humps - One hump

 -Heavily built body - Light body

 -More fur on the body - Less fur on the body

 ***( 2 x 1 =2 mks)***

 14. a- Connecting rod transmits power from piston to crankshaft ( ½ mk)

 b. Carburretor – Vapourizes petrol

 - Mixes petrol with air

 -Regulation of air : fuel ration

 ***(Any one x ½ = ½ mk)***

 c. Thermostat – Regulates the temperature of the engine ( ½ mk)

 d. Piston rings – Prevents leakage of air – fuel mixture during compression

 - Prevents loss of power during power stroke

 - Supports heat transfer from the piston to the cylinder wall

 - Prevents leakage of oil into combustion chamber

 ***( Any 2 x ½ =2 mks)***

 e- Radiator – Cools hot water from the engine

 ***( ½ mks)***

 15. Quarantine – Animal movement is restricted

 into or out of an area incase of an outbreak of a d disease to prevent the spread of the diseases ***(1mk)***

Proper selection and breeding – This prevents transfer of congenital diseases from parents to the offsprings

 ***( 1 mk)***

 16. - Anaemic condition due to sucking of blood

 - Damage to liver tissues and haemorhage due to

 movement of the flukes within the liver

 - Swollen and painful abdomen

 - Loss of weight /emaciation

 - The animal suffer indigestion

***(4x ½ = ( 2mks)***

17. – Loss of hybrid vigour

- Decline in fertility leading to species extinction

- Reduction in performance

- High rate of prenatal mortality

***(3x ½ = ( 1 ½ mks)***

18

***SECTION B – 20MKS***

Rice bran= 13 x 500= 260 kg ***(1mk)***

 25

Sim sim seedcake = 12 x 500 = 240kg ***(1mk)***

 25

19. a- Docking /Tailing ***(1mk)***

 b- For even fat distribution throughout the body

* Prevent blowfly infestation
* Facilitate easy mating

 ***( 2 x 1 =2 mks)***

(c) - Lameness /Difficulty in walking

 - Foot rot

 - Difficulty in mating

 ***( 1 x 1 =1mk)***

(d) - Ensure the shearing floor is clean

 - Shears should be in goodworking condition

-Avoid cutting the skin, the vulva and the testes

 - There should be proper drainage in urine

 and faeces to prevent contamination of wool

 ***( 2 x 1 =2 mks)***

20. (a) Q - chicks crowd at one place due to cold

 air on the other side of the brooder ***(1mk)***

* R- Chicks are evenly spread within the brooder since temperatures are ideal ***(1mk)***

S – chicks crowd around the heat source due to low temperature ***(1mk)***

20(b)- Chicks drink too much water

* Reduced feeding
* Spreading their wings
* Panting
* They make abnormal voices
* They sleep with head and neck stretched on the floor. ***2 x 1 = 2mks***
1. (a) C- rasp/wood file (***1mk)*** rej file alone

D- Spirit level (***1mk)***

(b) – Pruning soft branches eg coffee (***1mk)***

 (c) Livestock production tools and equipment (***1mk)***

**SECTION C**

22(a) Operational differences between disc and a mould board plough

 **Disc Plough Mould board plough**

1. It can be used in fields with Rigid and slides along in

 Obstacles such as roots , stones operation hence cannot

 And stumps due to rolling be used on fields with

 action of the disc obstacles as it cannot vide o over them

2. Does not invert furrow slices Inverts furrow slices

 Completely , therefore leaves completely leaving a

 a rough seedbed clean seedbed

3. Ploughs at varying depth Ploughs at a constant

 depth

4.Requires more secondary Requires fewer secondary

 Operations Operations.

5. Requires low tractor power Requires high tractor

 To pull power to pull

6. Does not easily break Rigid,hence easily broken

 on encountering obstacles by obstacles

 as it vides over them

7. Does not lead to creation May lead to creation of

 Of hardpan of hardpan ***(Any 6 x 1 = 6mks)***

 ***SECTION ( 40MKS)***

1. b –Honey, harvesting procedure from Kenya top bar hire ***(10mks)***

-Carry out the practice early in the morning or before darkness set in

-Approach the hive quietly from the back and blow 2-3 puffs with the help of a smoker

- Remove the hive cover (roof)

-Remove the top bars one at a time using the hive tool

-Gently shake off the bees or brush there off using a bee brush

- Cut the ready combs which are light coloured using a hive knife into the honey container .

- Leaves 3cm of the comb still attached to each bar

- Leave some honey in the hives

- Return the bars ensuring no crevices are left

- Return the hive cover into position ***10 x 1 = 10mks***

 ***(Order must be followed)***

 22c ***. Four ways of stimulating a cow for milk let down (4mks)***

 – Massaging the udder with warm water

- Putting feeds on the feed troughs

-Appearance of the calf where natural feeding is practiced

- Appearance of the milkman

- Suckling by the calf

- Whistling / familiar noises

 (***4 x 1 = 4mks)***

 23.(a) Bloat

(i)***Causes***  (3mks)

- Feeding animals on feeds containing a lot of pasture legume, cabbage leaves and lush pastures

- Abrupt change in feeds given to animals from very dry feeds to very succulent feeds

- Blockage of oesophagus/gullet by large food particles such as potatoes

- Injury to the nerve supply of the rumen causing paralysis of the rumen

 ***3 x 1 = 3mks***

(ii) ***Symptoms (3mks)***

- Distention of the left side of the abdomen due to the gas accumulation

- Diffficulty in breathing

- Animal lies down and is unable to rise up

- Grunting and kicking at the belly

- Profuse salivation

- Death within hours due to pressure on blood vessels, heart and lungs

 ***3 x 1 = 3mks***

(iii) ***Control measures (4mks)***

- Provision of dry roughages to animals

- Wilting fodder

- Use of stomach pump to remove gases

-Use of troca and canular to puncture the rumen on the left side

- Making the animal to run

- Plodding the stomach

- Drenching with Epson salt

- Injecting with methyl silicon

- Drenching with a mixture of turpentine and vegetable oil

***(Any 4 x = 4mks)***

(b) Signs of good health in livestock

* Good appetite
* Regular and normal urination with the colour of urine being pale-straw in colour
* Body temperatures to be within normal range
* Behaviour of the animal – looks gentle or docile and produce normal sand
* General appearance – alert bright and able to carry the weight evenly .
* Movement of the animal- normal gait and walk with ease
* Posture – easy and normal posture according to the animal species
* Defeacation – Defeacate normally and regularly where the dung is neither loose nor hard
* Pulse rate should be normal
* Mucuos membrane is pink in colour, moist soft and elastic, smooth and well lubricated
* Warm skin, smooth, soft viable and moist especially around the muzzle
* Steady yields

***Any 10 x 1 = 10mks***

1. (a) –Ensure that the calf suckles the cow within the first eight hours to get colostrum
* Feed the calf on colostrum for the first four days
* Feed the calf 2 to 3 times per day for the first four weeks
* Introduce the whole milk or milk substitutes after the fourth day of the milk up to weaning
* Feed the calf with warm milk to avoid temperatures and at a regular intervals
* Provide adequate clean water to the calf from the third week
* Introduce palatable dry feeds such as concentrates /calf pellets/calf pencils and good quality cut grass from third week
* Any change in feeding should be done gradually to avoid nutritional disorders
* Clean equipment should be used for feeding the calves
* Calf should be trained to suck the milk from the bucket

***Any 10 x 1 = 10mks***

 24(b) – Body size/weight of the animal

* Age of the animal
* Animal activity
* Level of production
* Physiological condition of the animals weather/environmental conditions

***Any 4x 1 = 4mks***

24( c ) ***Six factors to consider when siting farm structures (6mks)***

* The location of homestead

It should be sited at a point where it would be possible to have a good view of the farm

* Accessiblity – The structure should be easy to reach from most parts of the farm.
* Security of enterprises eg poultry houses should be sited near the homestead
* Drainage/soil type – Area should have good drainage to prevent structures from being destroyed by water and also to prevent damp conditions that would encourage diseases infections
* Direction of prevailing wind – Structures likely to lead to foul smell, such as pigsty and latrines should be constructed on leeward side of the homestead
* Relationship between the structures – Structures with related uses should be constructed close to each other so as to save time and labour
* Farmer’s tastes and preferences/farmers personal whims –Somer farmers may prefer to have homestead in sheltered places while others might not.
* Nearness of ammenties such as electricity , for power to run machines , water supply for domestic uses and irrigation
* Topography of the area /gradient . – Area should be gentle sloping as flat areas are prone to flooding while in steep areas buildings may topple down
* Space for future expansion – enough room should be set aside for future expansion incase of the increase of the enterprises

***(Any 6 x 1 = 6mks )***