**MOKASA JOIN EXAMINATION – MARCH/ APRIL 2019**

**443/2**

**AGRICULTURE PAPER 2**

**MARKING SCHEME.**

1-- Flemish giant

- New Zealand white

- California white

- Chinchila

- Earlops

**( 4 x ½ = 2mks)**

2 (a) -Brucellosis

* Anthrax

**( 2 x ½ mks)**

(b) Newcastle

- Anthrax

- African Swine fever

- Black quarter

- Brucellosis

**(2 x ½ = 1 mk)**

3 – Large / heavy

* Brown
* Clean
* Smooth shelled
* Fresh
* Good candling qualities

**( 4 x ½ = 2mks)**

4 - prevent attack from insects

* Prevent attack from fungi/rotting
* Resist water penetration
* Increase strength
* Prevent warping

**( 4 x ½ = 2mks)**

5 -wind

* Human
* Solar Biogas
* Electricity
* Petroleum

**( 4 x ½ = 2 mks)**

6 - Superior females are used to produce which are spread widely

* Stimulates milk production in females not in milk
* Easier to transport embryos in test tubes
* Embryos can be stored for long periods waiting for a recipient female
* No injuries to small body size females from large body sizes
* No spread of breeding diseases
* Off springs adapt to the local conditions

**( 4 x ½ = 2mks)**

7 - Un availability of a tractor

* When transporting small load
* Where the terrain does not allow the use of a tractor
* Lack of skills to operate the tractor.

**( 4 x ½ = 2 mks)**

8 - poor storage

* Wrong size
* Lack of maintenance
* Obsolescence

**( 4 x ½ = 2mks)**

9 (i) - Chain

* Pliers
* Claw hammer
* **( 2 x ½ = 1mk)**

(ii) - Leveling board

* Wood float ( reject steel float)

**( 2 x ½ = 1mk)**

10 - Require small compared to free range

* Less loss of eggs
* Easier collection of manure
* Easier protection of birds from vermins/parasites/diseases
* High stocking rate
* Less labour requirement

**( 4 x ½ =2mks)**

11 - practice farm hygiene/miling infected cows last/using single towel to wipe the udder of cow.

* Treatment of infected cows to prevent spread.
* Practicing teat dips after milking.
* Applying milking jelly/ salve to prevent teat from drying and cracking
* Practicing good milking techniques.

**( 4 x ½ = 2mks)**

12 - size of the animal

* Semen/sire to breed it with/mate it.
* Health of the animal
* Ancestors performance
* Rate of growth
* Dairy conformation.
* Either male/female twin

**( 4 x ½ = 2mks)**

15 - possible to plan when to hatch

* Possible to control internal conditions of the incubator
* Easier to control diseases and parasites
* Incubator can hold more eggs at any time than the hen can sit on.

**(4 x ½ = 2mks)**

**SECTION B (20 Marks)**

16 (a) A – Hose pipe /delivery pipe

* B – Lance
* C – shoulder straps
* D – preumatic lever

**( 4 x ½ = 2mks)**

(b) Trigger – Controls the rate of spray delivery. (1mk)

Nozzle – Breaks and ejects the liquid as spray

* Atomizes the spray.

**( 1mks)**

(c ) – Spraying agricultural chemicals to crops in order to control pests and diseases

-Spraying livestock to control external parasites such as ticks.

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

17

|  |  |  |  |
| --- | --- | --- | --- |
| **Diseases** | **Cause** | **Characteristics symptom** | **Preventive measures** |
| Coccidiosis | Protozoa/coccidian sp | Diarrhoea/whitish/yellow/blood stained | Give coccidiostats in drinking water/food |
| Blackquater | Bacteria/clostridium sp | Lameness / swollen muscles | Vaccination |
| Rinder pest | Virus | Diarrhoea with blood- stained feaces | Vaccination |
| Milk fever | Low level of calcium(reject lack of calcium) | Animal goes down with stiff bent neck. Twitching of muscles | * Injection with calcium preparation eg calcium borogluconate * Feeding with calcium rich feed stuff during gestation period |

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

18 (a) Debeaking **(1mk)**

(b) **P**  (1mk)

(c )-- Reduction of egg eating and breaking of eggs

* Controls cannibalism
* Prevents injury from pegging or fighting
* Reduction feed wastages
* Reduction of feather pulling
* Moderates pegging order which encourages greater uniformity in the flock.

( 3 x 1 = 3mks)

19 (a) Spraying of livestock against tick control (1mk)

(b) Spray race. (1mk)

(c ) It is suitable for pregnant and sick animals as animals do not get a shock

* Acaricide wash is not wasted since its recycled
* Animals cannot swallow the acaricide wash
* Spraying is faster less labour is required.
* ( 3 x 1 = 3mks)

**SECTION C**

20 (a) **Factors that influence composition of milk**

* Age of the animal
* Condition of the animal i.e emaciation, sickness and pregnancy
* Stage of lactation and pregnancy: butter fat content in milk tends to be higher at the middle phase of lactation period.
* Completeness of milking
* Breed differences
* Season of the year
* The type of food eaten by the animal
* Presence of diseases such as mastitis and if the animal is under treatment through use of different drugs will produce milk with variable composition.

(b) **Causes of cannibalism in poultry;**

- Presence of external parasites

- overcrowding

- Presence of bright light

- presence of prolapse

- Mineral deficiency

- Introduction of a new bird in a flock.

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

(C ) **Uses of fences in the farm,**

* It demarcates the farm from that of neighbours
* Fences keep off wild animals and other intruders from outside the farm
* They are used to separate crop fields from the pastures facilitating mixed farming
* They are used to divide pasture into paddocks facilitating controlled grazing systems such as rotational grazing
* Controls the movements of animals and people preventing the formation of unnecessary paths in the farm.
* Helps to control the spread of pastures and diseases by keeping off wild and stray animals from the farm
* Fences help to isolate sick animals from the rest of the herd to prevent disease spread.
* They enable the farmer to control breeding by rearing different animals in different paddocks
* They provide security to the homestead and farm animals.
* It is for aesthetic value, that is, it improves the beauty of the land.

**( 6x1 = 6mks)**

21 (a) **Newcastle disease**

1. Causal organism- Virus (1mk)
2. Animals affected; - poultry (1mk)
3. Symtopms

* The birds have difficulties in breathing, produce a harsh, grating rasping sound when breathing
* The beaks remain wide open and necks are strained
* The birds become dull
* The birds stand with eyes closed all the time
* The birds loose appetite
* There are nasal discharges which force the birds to shake their heads to clear it
* Birds walk with a staggering motion since the nervous system is affected, paralysis of wings and legs may occur
* Often the birds have their beaks and wings down
* Birds produce watery greenish diarrhea
* Eggs laid have soft shells

**(5 x 1 = 5mks)**

1. **Control measures;**

* Vaccination should be done during the first six weeks and then two – three months later.
* Farmers are advised to kill all the birds and burn them once infestation has occurred.
* The houses be cleaned and disinfected before bringing in new stock.
* Quarantine is imposed once an outbreak is suspected of occurred.

**( 3 x 1 = 3mks)**

**(b) Principle operation of four – stroke cycle engine**

**Induction stroke cycle**

* The piston moves down the cylinder causing the inlet valve to open and outlet valve closes. This causes the drawing in of fresh petrol vapour and air into the cylinder.

**Compression stroke;**

* Both inlet and outlet valves are closed and the piston moves up the cylinder. This causes compression of the fresh fuel mixture in the combustion chamber.

The power stroke cycle;

* The fuel air mixture is fully compressed and a spark is produced at the spark plug.
* This causes the fuel mixture to ignite and expand resulting in high pressure that cause/force the piston to move down the cylinder.

**The Exhaust stroke cycle;**

* This is the last stroke where the piston moves up the cylinder to eliminate the burned fuel mixture through an open exhaust valve.

**( 1 x 10 = 10 mks)**

23 (a) Signs of parturition in cattle;

* Restlessness.
* Enlargement of the vulva
* Thick mucus is discharged from the vulva
* Relaxation of the hip muscles
* Full and distended udder.
* Thick sticky honey like fluid is discharged from the teats
* Loss of appetite
* Towards the end water bag emerges and bursts where the fore legs and muzzle is noticed.

**( 5 x 1 = 5mks)**

(b**) Reasons for inbreeding;**

- To increase genetic uniformity in the herd

- Used to fix the required characteristics in the new- breeds.

- To increase phenotypic uniformity

- Used to get proven sires

- used in animals of high prepotency.

**(5 x 1 = 5mks)**

(C ) **Effects of parasites in livestock;**

* Causes anemia
* Deprive the host animal of food
* Injury and damage to tissues and organs
* Diseases transmission
* Cause irritation
* Obstruction to internal organs.

**( 5 x 1 = 5mks)**

**(d) Difference between Ruminants and non- ruminant digestive system;**

|  |  |
| --- | --- |
| **Ruminants** | **Non - Ruminants** |
| * chew the cud * have four stomach chambers – thus polygastric * Regurgitate food * Can digest cellulose. Have micro - organisms in the rumen that digest cellulose. * Have no ptyalin in saliva hence no enzymatic digestion in the mouth. * Most digestion and absorption takes place in the rumen. * Have alkaline saliva due to presence of ammonia. | * Doesn’t chew the cud * Have one stomach chamber – thus monogastric * Cannot regurgitate food once swallowed. * Have no micro-organisms in the stomach hence cannot digest cellulose except those animals with micro-organisms in the ceacum * Have ptyalin in the saliva hence enzymatic digestion begins in the mouth * Most digestion and absorption takes place in the small intestines * The saliva is neutral in PH. |

**( 5 x 1 = 5mks) Mark it as a whole.)**