**SUKELLEMO 2022 JUNE AGRICULTURE PAPER 2**

**M A R K I N G S C H E M E**

**SECTION A (30 MARKS)**

*Answer ALL questions in the spaces provided*

1. Give **three** qualities that make the merino breed popular. **(1 ½ marks)**

* *The breed is hardly suited to moderately dry areas.*
* *Has a good flocking instinct hence easy for a shepherd.*
* *Produces high quality wool.*

2. Name **four** breeds of rabbits.  **(2 marks)**

* *New Zealand white*
* *Californian white*
* *Flemish giant*
* *Chinchilla*
* *Earlope*

3. State **three** reasons that a farmer would prefer to use an ox-cart instead of a tractor-drawn trailer. **(2 marks)**

* *If a farmer has little capital*
* *If the land is very steep*
* *If the farmer has available land for grazing and poor roads*

4. State **four** factors that influence the quality of honey. **(2 marks)**

* *Presence of impurities or foreign materials.*
* *Source of nectar/food type*
* *Stage of maturity*
* *Over smoking reduces quality of honey*
* *Method of extraction*
* *Season of the year and flowering*

5. Outline **four** management practices that would ensure maximum harvest in a fish pond. **(2 marks)**

* *Control of stocking rate*
* *Control of water pollution*
* *Supply of food for fish*
* *Aeration of water/flowing water*
* *Maintaining appropriate depth of water in the pond*
* *Harvesting at the right maturity stage*
* *Control of predators*

6. State **six** factors that may determine the quantity of silage eaten by dairy cows.

**(3 marks)**

* *Palatability of the silage*
* *Physical size of ensiled silage*
* *Method of preparation of the material*
* *Animal body weight or size*
* *Level of milk production*
* *Physiological state of the cow*
* *Type of foliage plant*
* *Other feeds that the cow may have eaten or hunger*

7. Name **two** predisposing factors to foot rot disease in sheep. **(1 mark**

* *Wet ground or muddy soil*
* *Injuries or hooves*
* *Overgrown hooves*

8. Give **two** reasons why walls of dairy sheds should be white washed instead of painting with water or oil paints. **(1 mark)**

* *To avoid poisoning from lead*
* *Discourage insects inhabiting the shed*
* *Avoiding tainting milk in the shed*

9. Give **two** reasons why tsetsefly control is considered a land reclamation method. **(1 mark)**

* *Human settlement is made possible*
* *Livestock rearing is made possible*

10. (a) What is the intermediate host for liver fluke. **(½ mark)**

*Fresh water snail/mud snail*

(b) What is the duration of oestrus cycle in a cow? **( ½ mark)**

*18 – 22 days*

(c) What term is used to refer to the condition during calving in which the hind legs come out first?  **( ½ mark)**

*Breech/rear presentation/mal-presentation*

11. Give **two** causes of soft shells in eggs. **(1 mark)**

* *Deficiency of calcium*
* *An infection by new castle disease*

12. State **four** reasons for keeping livestock healthy. **(2 marks)**

* *Fast growth and maturity is achieved.*
* *A long economic and productive life is achieved.*
* *Maximum production and performance is achieve.*
* *Good quality products are achieved.*
* *Spread of diseases is curbed to other animals and human beings*
* *It is economical to keep healthy animals.*

13. Give **four** qualities of a good acaricide. **(2 marks)**

* *Ability to kill ticks*
* *Harmless to human beings and livestock*
* *Be stable for a long duration*
* *Be effective even after being foiled with dung, mud, hair*

14. State **four** disadvantages of inbreeding in livestock. **(2 marks)**

* *Brings less of hybrid vigour*
* *Leads to a decline in fertility leading to species extinction*
* *Reduces performance of livestock*
* *Leads to a high rate of pre-natal mortality*

15. Outline **four** benefits of steaming-up in livestock. **(2 marks)**

* *Provides nutrients for good foetal growth*
* *Builds up energy for parturition*
* *Ensures birth of healthy animals*
* *Ascertains good health of the mother*
* *Increases and maintains high milk yield after birth*

16. Name **four** reasons for castrating male calves. **(2 marks)**

* *Makes them docile*
* *They fatten faster into steers*
* *Breeding is controlled*
* *Inbreeding is also controlled*
* *Breeding diseases like brucellosis and vaginitis are controlled.*

17. Outline **four** uses of solar energy in a farm. **(2 marks)**

* *Used for drying farm produce*
* *Used for heating water*
* *Used for distillation of clear drinking water*
* *Used for cooking with special equipment*
* *Used for generating electricity*

**SECTION B (20 MARKS)**

*Answer ALL questions in this section in the spaces provided*

18. The following is a diagram of an artificial incubator. Study it and answer questions that follow.

(a) Identify the following parts shown by letters **A** and **B**. **(2 marks)**

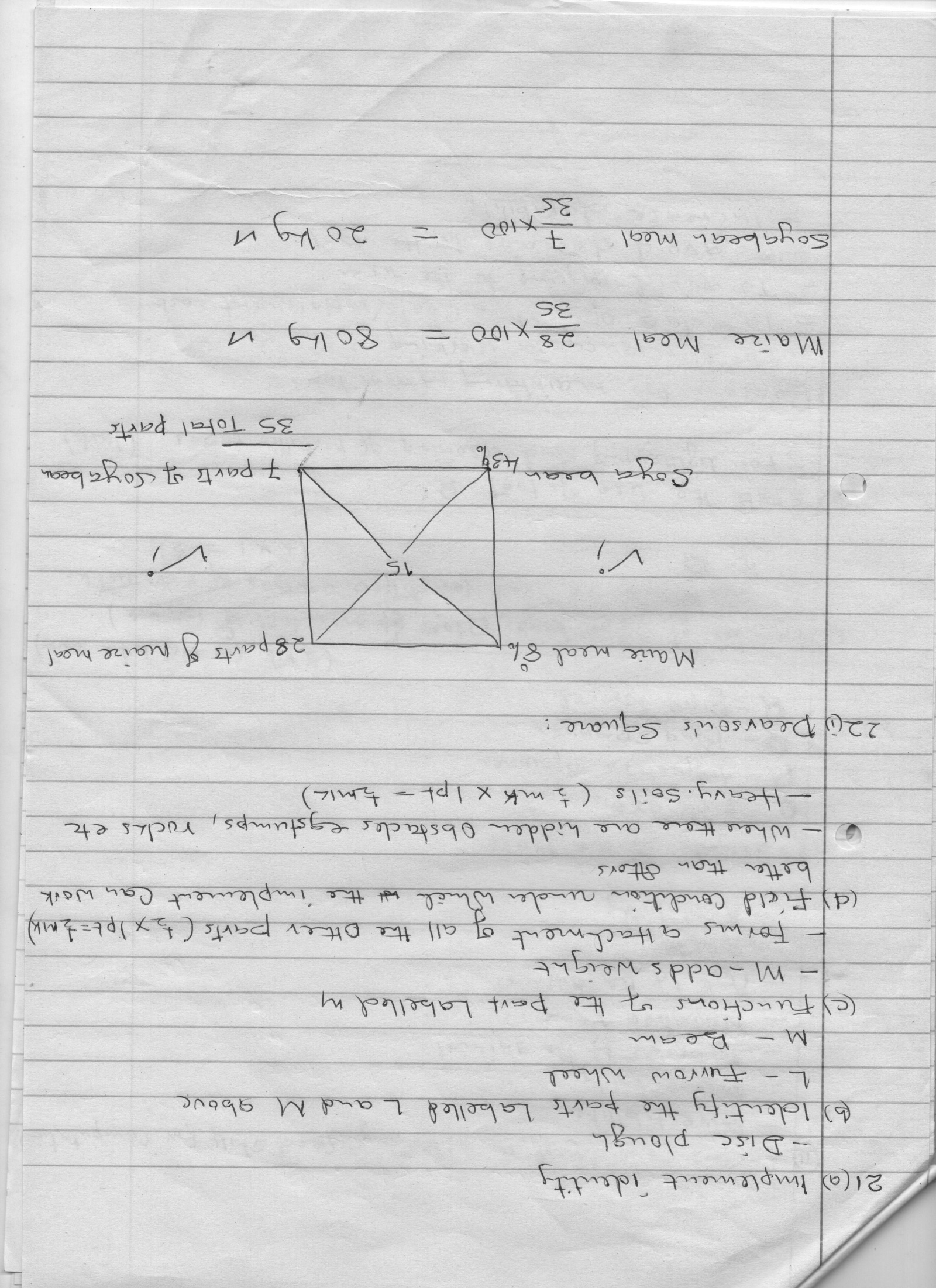
**A** *Thermometer*

**B** *Warm water*

(b) State **three** conditions that are necessary for a successful hatching. **(3 marks)**

* *Temperature should be ideal preferably 37.50C – 39.40C to maintain a healthy growth of the embryo.*
* *Fresh air is ideal in the incubator for embryonic development*
* *A relative humidity of 60% is ideal in production of healthy chicks during hatching.*
* *Egg turning regularly is necessary to avoid the germinal disk sticking onto the egg shell that leads to embryonic mortality*

19.



20. The following diagram is a petrol engine of a tractor ignition system, study it and answer the questions that follow.

(a) Identify the following parts **F** and **G**. **(1 mark)**

**F** *Distributor*

**G** *Ignition coil*

(b) What is the role of part **G**? **(1 mark)**

*Converts battery voltage from 12 volts to 6000 volts for the spark plugs.*

(c) State **three** maintenance that should be done to the tractor battery. (**3 marks)**

* *Level of electrolyte should be above the plats of topping up with distilled water.*
* *Corroded terminals should be scrapped clean and smeared grease.*
* *Battery should be tightly fixed to avoid damage or spillage.*
* *Battery should be fitted correctly on the tractor.*
* *Battery should be charged regularly.*
* *For long storage the contents should be emptied and kept upside down.*
* *The fan belt for charging the battery should be tightly fixed.*

21. Study the following diagram and answer questions below.

(a) Identify the above disease. **(1 mark)**

*Fowl pox*

(b) What causes the above disease? **(1 mark)**

*Virus / Avian fox*

(c) Give **two** predisposing factors of the disease. **(2 marks)**

* *Wounds on the body*
* *Presence of mosquitoes, ticks, lice, and other biting insects.*

(d) Give **one** control measure of the disease. **(1 mark)**

* *Vaccinating all the healthy birds every 6 months*
* *Killing all the affected birds and disposing the carcasses properly*

**SECTION C (40 MARKS)**

*Answer any* ***two*** *questions from this section.*

22. (a) Explain **eight** functions you can carry out in a crush. **(8 marks)**

* *Spraying livestock against external parasites*
* *Identifying the livestock by branding, ear tagging, ear notching*
* *Vaccination against notifiable diseases*
* *Administering prophylactic drugs to livestock in control of diseases*
* *Treating livestock with other medicants like antihelminths.*
* *Dehorning livestock to avoid risks of horns.*
* *Pregnancy, testing in identification of fertility.*
* *Artificial insemination in avoidance of natural mating.*
* *Taking body temperature in checking for fever.*
* *Hoof trimming to avoid foot rot.*
* *Milking the cows twice a day.*

(b) Describe **six** advantages of rotational grazing.  **(6 marks)**

* *Maximum use of the pasture is made by livestock.*
* *Buildup of pests and diseases is reduced*
* *Animals faecal material is distributed evenly in all paddocks,*
* *Pastures are given time to regrow before grazing is done again.*
* *Excess pastures can be harvested and conserved.*
* *Fertilizers reseeding and weeding can be done on pastures that are not in use.*

(c) Describe **six** effects of parasites on livestock. **(6 marks)**

* *Suck large volumes of blood causing anaemia in livestock.*
* *Deprive the host livestock food by extracting nutrients from the alimentary canal of the host animal.*
* *Injury and damage to tissues and organs mainly the skin and internal organs damaged during migration causing haemorrhage.*
* *The wounds created on the hides and skins are entry points of disease pathogens and infection.*
* *Many parasites are vectors of infectious diseases spreading them to other livestock.*
* *When parasites bite the livestock on their hides and skins they create irritation.*
* *Obstruction of internal organs mainly the small intestines occurs when internal parasites accumulate causing constipation.*

1. (a) Describe the characteristics of indigenous cattle that make them more suited to survive in marginal areas . (9mks)

* Have humps that store fat which is broken down to energy and water in times of starvation
* Fairly tolerant to high temperatures due to dewlap and thick hides
* High tolerance to tropical diseases such as trypanosomiasis
* Slow growth rate leading to late maturity
* Low production of both meat and milk due to inheritance of poor characteristics
* Can walk long distances in search of food and water
* Can stay for long distances in search of food and water without seriously affecting their performance and body condition
* Have long calving intervals of more than one year.

(b) Explain **five** reasons for maintaining farm tools and equipment. **(5 marks)**

* *Increase the durability of tools and equipment to last long.*
* *To reduce the replacement cost hence save on spending excessively.*
* *Increase efficiency so that work can be down with comfort without stress.*
* *Avoid injuries to the user that is done by blunt tools or those with poor handles.*
* *Avoid damage to the tools that may include breakages to the tools if poorly maintained.*

(c) Explain **six** maintenance commonly done to farm tools and equipment.

**(6 marks)**

* *Cleaning the tools after use.*
* *Sharpening the cutting tools.*
* *Tightening the loose handles using bolts and nuts,*
* *Applying used engine oil on the metal surfaces to prevent rust.*
* *Repairing and replacing broken parts like the blades.*
* *Using lubricant for all moving parts of tools and equipment to reduce friction.*

24. (a) Describe **ten** uses of fences on a farm. **(10 marks)**

* *Provide security from thieves, wildlife, trespassers.*
* *Enable paddocking/rotational grazing/mixed farming*
* *Control parasites and diseases by keeping away neighbouring animals*
* *Demarcating the boundaries.*
* *Live, fences act as windbreakers and shelter belts.*
* *Provide aesthetic value to the farm*
* *Increase the farm land value*
* *Help in soil and water conservation in case of hedges*
* *Hedges may be a source of fruits and their trimmings* *a source* *of fodder, firewood, compost manure.*
* *Provide privacy*
* *Isolation of animals for different purposes like treatment, gestation, bull isolation.*

(b) Explain **five** essentials of clean milk production . **(10 marks)**

A healthy lactating cow.

A healthy and clean milker.

Clean and properly constructed milking parlour.

Clean and disinfected milking equipment.

Proper handling of the milk after milking.

Avoid flavours in milk.-

Milk filtration, cooling and storage.