

SUKELLEMO 2022 JUNE AGRICULTURE PAPER 2

MARKING SCHEME

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 achieved.*
 - *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)**

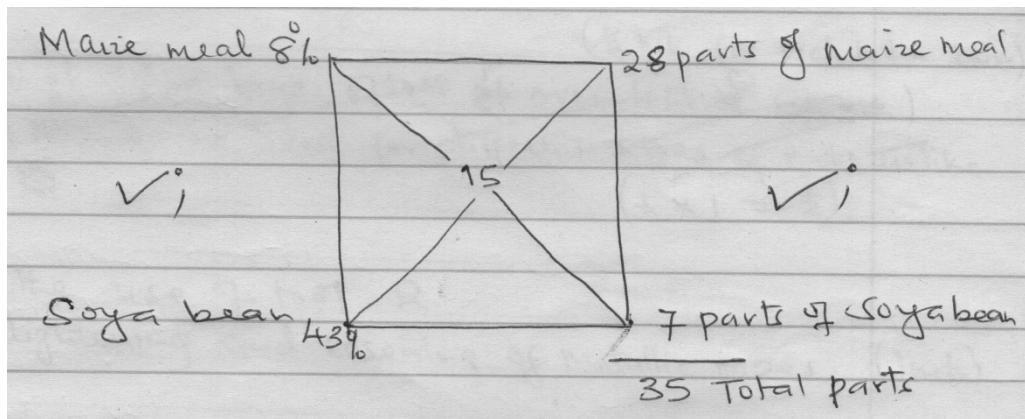
A *Thermometer*

B *Warm water*

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

- *Temperature should be ideal preferably 37.5°C – 39.4°C 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.*

23. (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 done 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.