

# MOI HIGH SCHOOL KABARAK AND SACHO

## JUNE 2017 K.C.SE AGRICULTURE PAPER 2

Time: 2 hours

### 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  $37.5^{\circ}\text{C}$  –  $39.4^{\circ}\text{C}$  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. Study the following farm implement and answer the questions below.

(a) Identify the above implement. **( ½ mark)**

*Disc plough*

(b) Identify the parts shown by letters **C, D, E.** **(1 ½ marks)**

**C** *Beam*

**D** *Disc*

**E** *Top link*

(c) Give **three** reasons that make the implement better in land preparation.

**(3 marks)**

- *Can be used in a field with obstacles as it rolls over them.*
- *The implement is hardly and does not break easily hence requiring less maintenance.*
- *The implement requires less draught power due to the rotting effect of the disc.*
- *The implement is suitable for hard and we sticky soils especially those dominated by clay.*

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 **nine** short term services that should be done to a farm tractor. **(9 marks)**

- *Engine oil should be checked daily by use of a dip stick and added if the level is low.*
- *The fuel should also be checked if low added.*
- *Water level should also be checked in the radiator and topped up.*
- *The electrolyte in the battery should be checked and topped up if below the plates.*
- *Bolts and nuts should be tightened daily.*
- *Greasing the nipples of the tractor is necessary.*
- *Sediments should be removed from the sedimentary bowl.*
- *Tyre pressure should be checked in the tyres and adjusted every day.*
- *The fan belt tension should be checked so that it can charge the battery by running the generator.*
- *Brake shaft bearing should be greased.*

(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** factors a farmer should consider in the construction of farm structures. **(10 marks)**

- *Sitting in relation to other buildings farm activities, security, accessibility, drainage.*
- *Orientation in relation to the prevailing wind direction and sunlight.*
- *Purpose and design is usually for the purpose intended considering the climate and size of the enterprise.*
- *Materials should account for the cost, availability, durability.*
- *Capital will depend on the cost of the structure and finances available.*
- *Flexibility by alternative uses of the structure.*
- *Required skill considering the skill required and that available on the farm.*
- *Government regulations have to be followed.*
- *Type of the building is also considered whether permanent or temporary.*
- *Future expansion is also considered while constructing.*