

FORM FOUR END OF SECOND TERM EXAM

Kenya Certification of Secondary Education

AGRICULTURE

Paper - 443/2

July/August 2018

Marking Scheme

SECTION A	
<p>1. Masons trowel (reject trowel)</p> <ul style="list-style-type: none">- Wood float.- Plumb bob and line.- Masons square.- Masons chisel.- Masons line.- Tape measure <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>	<p>after death of male.</p> <ul style="list-style-type: none">- Increases breeding potential of the male.- Saves cost of rearing male on the farm.- Appropriate for small scale farmers who can not afford to rear a superior male. <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>
<p>2. They rarely go broody.</p> <ul style="list-style-type: none">- They have high growth rate.- Have high egg laying percentage. <p>$2 \times \frac{1}{2} = 1 \text{ mark}$</p>	<p>7.- Makes animals docile.</p> <ul style="list-style-type: none">- controls breeding.- controls breeding diseases.- ensures fast growth of the animals.- improves quality of meat.- prevents inbreeding. <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>
<p>3. Notifiable disease - Disease that spread very fast and where outbreak must be reported to government authority e.g. Anthrax, Newcastle zoonotic disease - disease that can be passed from livestock to human beings. e.g. anthrax, brucellosis.</p> <p><i>mark as a whole</i> $2 \times 1 = 2 \text{ mark}$</p>	<p>8. Bee brush - rub off bees from honey combs during harvesting or during inspection of the hive.</p> <ul style="list-style-type: none">- Hive tool - to separate top bars from one another.- Hive knife - cutting honey combs from top bars. <p>$3 \times 1 = 3 \text{ marks}$</p>
<p>4. Anaemic condition.</p> <ul style="list-style-type: none">- Some may be seen on animals body.- presence of vector borne disease in the herd.- presence of the parasite eggs on animals coat.- Animals rub its body against hard surfaces / animal keep on scratching its body.- Loss of hair /wool. <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>	<p>9.- Fire proof.</p> <ul style="list-style-type: none">- High durability.- Easy to clean- Easy to mould into various shapes.- its strong.- not attacked by vermins. <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>
<p>5.- Body size</p> <ul style="list-style-type: none">- Level of milk production.- age of animal.- physiological status.- environmental temperature. <p>$4 \times \frac{1}{2} = 2 \text{ marks}$</p>	<p>10. Increase durability of the structure</p> <ul style="list-style-type: none">- reduces likelihood of accidents when using the structure.- Ensure the structures are efficient.- Have high resale value. <p>$2 \times \frac{1}{2} = 1 \text{ mark}$</p>
<p>6.- Control spread of breeding diseases.</p> <ul style="list-style-type: none">- Control breeding.- eliminated aggressive males on the farm- small females are not injured by large males.- Males unable to mate get a chance to become sires.- Semen harvested may be stored for long even	<p>11. East Coast fever.</p> <ul style="list-style-type: none">- Trypanosomiasis / Nagana.

- Anaplasmosis / gall sickness.
 - Red water/ babesiasis.
- $2 \times \frac{1}{2} = 1 \text{ mark}$

12. Lameness/limping.

- swelling of infected hooves.
 - fever.
 - Foul smell / pus from infected hooves.
 - Sheep grazes while kneeling if fore legs are infected.
 - Animal grazes while lying down when hindlegs are infected.
 - Presence of wounds on infected hooves.
- $4 \times \frac{1}{2} = 2 \text{ marks.}$

13. - Shell quality.

- Cleanliness of shell.
 - the size of the egg.
 - Candling quality.
 - Shell /egg colours.
 - shape of the egg.
- $4 \times \frac{1}{2} = 2 \text{ marks}$

14.-Parasite control.

- disease control.
- dehorning /disbudding.
- feeding.
- deworming.
- identification.
- vaccination.
- removal of extra teats.
- proper housing.
- culling.

any $4 \times \frac{1}{2} = 2 \text{ marks}$

15. Increase efficiency of the machines/ promotes free movement of engine parts / reduces wear and tear of moving parts/ reduce friction.

- Traps foreign materials e.g. dirt, soot/ cleaning agent.
- Prevents rusting of stationary machines.
- lowers engine temperatures by conductivity excess heat away.
- helps in sealing compression (contact) between piston and cylinder.

any $4 \times \frac{1}{2} = 2 \text{ marks}$

- 16.i)** Friesian $1 \times \frac{1}{2} = \frac{1}{2} \text{ marks}$
ii) Friesian. $1 \times \frac{1}{2} = \frac{1}{2} \text{ marks}$

17.-Status symbol.

- medium of exchange.
- social ceremonies.
- recreational purposes.
- bride price.
- provision of garments. **any** $2 \times \frac{1}{2} = 1 \text{ mark}$

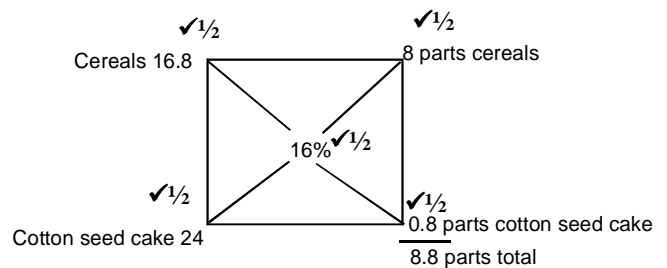
18. Farm equipment.

- a) Identity - Bucket sprayer / stirrup pump / hand sprayers. $1 \times 1 = 1 \text{ mark}$
- b) Use of equipment - spraying chemicals on livestock to control external parasites. $1 \times 1 = 1 \text{ mark}$
- c) **Part R** - air vessel $1 \times 1 = 1 \text{ mark}$
- d) Function of part T - atomize the spray liquid. $1 \times 1 = 1 \text{ mark}$
- e) Maintenance practices.

- clean after use.
- grease moving parts.
- apply oil on metallic parts to prevent rusting. (reject oil metallic parts)
- unblock blocked nozzle.
- proper storage. $1 \times 1 = 1 \text{ mark}$

19. Pearson square - calculation.

Cereal mixture - Maize and sorghum
 $= 8 + 8.8 = 16.8\% \checkmark$



$$\text{Cereals} = \frac{8}{8.8} \times 100 = 90.9\text{kg}$$

$$\text{Maize} = \frac{90.9}{2} = 45.45\text{kg}$$

$$\text{Sorghum} = \frac{90.9}{2} = 45.45\text{kg}$$

$$\text{Cotton seed cake} = \frac{0.8}{8.8} \times 100 = 9.1\text{kg}$$

20. livestock handling structure.

a) Plunge dip / cattle dip. **1 mark**

b) Identify M - footbath.

N - diptank / dip wash

P - exit ramp / Steps

Q - roof / dip tank shelter

4 × 1 = 4 marks

c) Importance of parts.

H - removes mud from animals hooves.

- Has copper (II) sulphate that prevents occurrence of foot rot in animals.

P - enables the animals to exit the dip tank easily.

d) Two structural features of R.

- floor is made of rough concrete.

- it slants slightly towards the dip tank.

- narrow enough (1m) to allow animals to pass single file.

- planks of wood are nailed from the inner side.

2 × 1 = 2 marks

SECTION C

21.a) Describe short term tractor servicing(10 mark)

- Engine oil should be checked daily by use of dip stick and oil level maintained.

- fuel level should be checked at start of everyday's work added if necessary

- water level in radiator should be checked and if low topped up.

- level of electrolyte should be checked daily and topped with distilled water if low.

- nuts and bolts should be tightened everyday.

- grease should be applied regularly to moving parts.

- large sediments from sediment bowl should be removed.

- tyre pressure should be checked every morning before the days work and adjusted accordingly.

- fan belt tension should be checked to ensure it deflects between 1.9cm - 2.5cm when pushed.

- brake fluid level should be maintained.

- lost bolts and nuts are replaced.

b) Practices carried out in a deep litter poultry to control parasites and diseases.

- Use of prophylactic drugs/ prophylaxis e.g. coccidiostat.

- Routine vaccination.

- Routine dusting of litter / birds to control external parasites.

- regular deworming of birds.

- removal of wet / caked litter.

- maintenance of an appropriate foot bath at the entrance of the house.

- Isolate sick birds

- timely treatment of sick birds.

- proper feeding /feed birds on balanced ration.

- regular cleaning and disinfecting the feeders and drinkers

- disinfecting the poultry house before introducing a new flock.

- keep away unauthorized persons from the house.

- treat on any injuries on the birds.

22.a) Predisposing factors - are those conditions inside or outside the body of an animal which lead to an animal contracting a disease or injury.

b)i) Causal organism - bacterium / streptococcus spp / staphylococcus spp.

ii) Predisposing factors

- Old age

- Beginning and end of lactation./stage of lactation.

- loosely hanging udders.

- incomplete milking.

- mechanical injuries on teats and udder.

- poor sanitation.

- poor milking techniques

iii) Symptoms.

- Milk contains pus, blood, thick clots or turn watery.

- Animals reject suckling or milking and kick due to pain on udder and teat.

- dead of infected quarter may occur.

- milk has salty taste.

c) Factors that may necessitate culling in livestock production.

- old age.

- low level of production.

- physical defects / deformities i.e. mono-eyed, limping, irregular number of teats, scrotal hernia, defective and weak backline.

- poor health / ill health.

- poor body conformation.

- bad temperament / undesirable behaviour like cannibalism in poultry, kicking in dairy

- cattle.
- poor /low quality products.
- poor mothering ability.
- poor adaptability to prevailing climatic conditions.
- low prolificacy.

23.a) Describe the management practices that a farmer should carry out to increase milk production in a low yielding herd.

- select animal with good health.
- select animals having high fertility.
- select animals having good conformation.
- cull poor producers.
- use semen from superior bulls to serve the cow.
- mate helpers when fully mature considering weight / age.
- breed cows 60 - 90 days after calving to maintain calving interval of one year.
- keep animals healthy by routine vaccinations.
- control external parasites by spraying using appropriate insecticide / acaricide.
- control internal parasites by routine drenching using appropriate antihelminthes /deworm.
- treat sick animals.
- avoid predisposing diseases factors.
- observe cleanliness in the farm / sanitation.
- feed the cattle on balanced diet.
- give clean uncontaminated feed.
- provide plenty of clean water.
- provide minerals and vitamins.
- milking using right technique.

b) General methods of disease control. (5 marks)

- Proper selection and breeding.
- proper housing.
- control of parasites.
- observing high degree of hygiene.
- proper feeding and nutrition
- use of prophylactic drugs.
- disinfection of animal injured parts.
- proper disposal of carcasses
- imposing quarantine.
- separation / isolation.
- vaccination.
- slaughter of diseased animal.
- treatment of sick animal.

23.a) Components of a zero grazing unit.

- sleeping cubicles - where animals rest.
- loafing area - an open area where animals feed from water and feed trough for watering and feeding animals respectively.

- milk stall - animals are confined during milking.
- Calf pen- used for keeping and feeding the calves.
- fodder preparation area - for chopping fodder.
- milk recording room - milk is weighed and recorded.
- store - storage of cattle feeds and milking equipments.