**KITUI COUNTY MOCK**
**END OF TERM II FORM FOUR EXAMINATION, 2017**
***Kenya Certificate of Secondary Education (K.C.S.E)***
**443/2**
**AGRICULTURE**
**PAPER 2**
**MARKING SCHEME**

**SECTION A**

**1.**
- Type of plants from which the nectar was collected
- Maturity stage of honey at the time of harvesting
- Method of harvesting
- Method of processing honey

(3 x ½ = 1½ marks)

**2.**
- Washing a cow with hot water
- Beating the cow (mistreatment)
- Change of milkman
- Unfamiliar noise
- Absence of food during milking

(4 x ½ = 4marks)

**3.**
- Sow becomes restless
- Vulva turns red and swells
- Udder becomes full with a milky fluid on teats
- The sow starts to build a nest by collecting some bedding at one corner of the pen.

(3 x ½ = 1½ marks)

**4.**
- Inadequate nests
- Too high /too low laying nests.
- Nests are brightly lit.
- Too small laying nests that make the birds squeeze in them.

(3 x ½ = 1½ marks)

**5.**
- Free from diseases causing organism
- Has no hair, dirt or dust.
- It is of high keeping quality
- Has good flavour
- Its chemical composition is within the expected standards.

(3 x ½ = 1½ marks)

**6.**
- Avoid contaminating livestock feeds with feaces
- Rotational grazing
- Improved sanitation by removal of dung
- Use appropriate anthelminthes
- Use latrines

(4 x ½ = 2 marks)

**7.**
- Loss of weight and emaciation
- Pot-bellied/ watery swellings on the body of the affected animal
- Animal suffers from indigestion
- Liver is damaged / Hemorrhage due to movement of flukes in the liver.
- Anaemic condition
- Dullness and animal appear depressed.
- Swollen and painful abdomen
- Recumbency precedes death.

(4 x ½ = 2 marks)

**8.**
- Increase level of production i.e. milk
- Improve quality of livestock products.
- To improve disease resistance in the animal
- To develop animals with a high growth rate.
- To develop animals with high heat tolerance.
- To develop animals that matures early.

(4 x ½ = 2 marks)

**9.**
- Freezing
- Salting
- Sun-drying
- Smoking
- Canning

(4 x ½ = 2 marks)

**10.**
- Roughage
- Concentrates

(2 x ½ = 1 mark)

**11.**
- To produce female gametes
- Produce hormones that reduce oestrus cycle

(2 x ½ = 1 mark)

**12. Reasons for flushing**
- Increase conception rate
- Facilitate implantation of the zygote
- Increase lambing percentage

- Increase twinning / multiple births.

(2 x ½ = 1 mark)

**13. Reasons for treating timber**

- Prevent attack by fungi / rotting
- Control pest attack
- Make timber strong and resist weather conditions
- Prevent warping

(4 x ½ = 2 marks)

**14.** - Animals body size
- Physiological status of the animal
- Level of production
- Environmental temperature
- Age of animal

(4 x ½ = 2 marks)

**15.** - connection / disconnection of the drive shaft
- Take off smoothly without a jerk

(2 x ½ = 1 mark)

**16.** - Spacious / provide adequate space
- Well ventilated
- Easy to clean.
- Well lit
- Leak proof
- Allow single calf housing at a time.
- Well drained floor

(4 x ½ = 2 marks)

**17.** - Availability of land for rearing
- Topography of land to facilitate easy drainage.
- Availability of labour
- Availability of appropriate equipment.
- Security
- Knowledge of the farm.

(4 x ½ = 2 marks)

**18.** - Control internal and external parasites
- Control diseases
- Effect identification
- Remove extra teats
- Effect dehorning

(4 x ½ = 2 marks)

## SECTION B

**19.** a) A - Alveolus
B - Gland cistern
C - Teat cistern
D - Teat

(4 x ½ = 2 marks)

b) Oxytocin, Adrenalin (2 marks)

c) Injecting a cow with appropriate antibiotics through the teat canal when it is being dried off to protect the cow from getting mastitis, (1 mark)

**20.** a) Fowl pox (1 mark)

b) - Cause death of the chicken
- Lowers egg production
- Increase cost of production

(2 x 1 = 2 marks)

c) - Kill all infected birds
- Vaccinate healthy birds
- Practice hygiene in poultry house

(2 x 1 =2 marks)

**21**. a) **P** - Wall plate
**Q** - Purlin
**R** - Tie beam/ Cross tie
**S** - Rafter

(4 x ½ = 2 marks)

b) **P** - Hold the trusses securely (1 mark)
**Q** - Hold the roofing materials (1 mark)

c) Tar; Creasole; tanex; used engine oil; Copper sulphate solution

(*Accept appropriate example*,(1 mark)

**22**. a) **E** - Differential
**F** - Fly wheel
**G** - Piston
**H** - Crankshaft

(4 x ½ = 2 marks)

b) **E** - Changes the direction of drive to right angles to power the wheels (1 mark)
**H** - Rotate and help the piston to move up and down. (1 mark)

## SECTION C

**23**.

**a)** - *The species of the animal* – Certain species of animals are affected by specific diseases like swine fever for pigs and new castle for poultry.
- *The breed of the animal* – Certain breeds of animals are affected by particular diseases like cancer of the eye for Helford and solar erythema for large whites.
- *The age of the animal* – Certain ages of animals are easily affected by certain

diseases e.g. anemia for piglets and lamb dysentery for lambs.

- *Sex of the animal* – Certain diseases are associated to sex of the animal e.g. Orchitis for males and vaginitis for females
- *Color of the animal* – Black colored animals suffers from heat stress.

(5 x 1 = 5 marks)

**b)**
- Burning of the infested pastures in order to kill all the stages of the lifecycle of ticks.
- Ploughing the pasture so that the stages of the lifecycle are exposed to sunlight for desiccation or killed by burying deeply.
- Top dressing the pasture with lime or acaridae is also effective in controlling larvae, nymphs and adults
- Fencing the pasture and farm to keep off intruding animals that could be carriers.
- Starving the ticks to death by enhancing rotational grazing which is effective in breaking lifecycles.
- Hand picking the tricks and killing them-deticking.

(6 x 1 = 6 marks)

**c)**
- Age of the animal. Young animals produce higher butterfat content in milk.
- The middle stage of lactation of a cow has higher butterfat content.
- Condition of the animal. Emaciated sick and pregnant animals produce low butterfat content.
- The last drawn milk during milking has higher butterfat content.
- Time of milking. Evening milk has higher butterfat content than morning milk.
- Breed of the animal. Jerseys, Guernsey the Zebu cows have a higher butterfat content than other breeds.
- Season of the year. Cows produce milk with higher butterfat content during cold season than warm season.
- Cows that feed on roughage produce milk with higher butterfat content than other feeds.
- Cows suffering from disease like mastitis produce milk with a low butterfat content and poorly contaminated.
- Cows under medication with antibiotics produce milk that is poorly constituted

(9 x 1 = 9 marks)

**24.**

**a)**
- Makes operations timely and faster
- Makes work easier and enjoyable
- High quality job is done than human labour
- There is an increased efficiency
- Pests and diseases outbreak cam be controlled relatively in a short time
- Farmers benefits form economic of scale
- It is economical in times of labour demand
- High yields are achieved because farm operation s are carried out timely

(5 x 1 =5 marks)

**b)**
- They have the ability to invert the furrow slice very well and as a result they can burry the vegetation ploughed
- They are easily kept at a constant depth during ploughing
- Better penetration in to the soil can be obtained
- If ploughing is done well, it is possible to prepare a seed -bed in one operation, i.e. it may not be unnecessary to harrow in order to break clods of soil.
- Fewer secondary operations are needed.

(5 x 1 = 5 marks)

**c)**
- Timber - Construction box and top bars
- Corrugated iron sheets - form lid to prevent leakage.
- Nails- for joining parts
- Wire - firming wire loop, for hanging
- Posts - for hanging
- Wood preservatives- coating on wood to preserve from attack by pests and weather conditions.

(½ mark for mentioning the material, ½ mark for explaining – 5marks)

**d)**
- The water pump should be lubricated regularly
- Clean water should be used in the radiator and trash removed from the fins
- All pipes ^should be fitted tightly to avoid leakage

- Fan belt tension should be checked regularly and if too tight or too loose should be adjusted
- The radiator should be filled with clean water before starting day's work.

(5 x 1 = 5 marks)

**25**.

a)
- Wedge shaped
- Well set hind quarters
- Straight top line
- Milk veins are visible
- Big / large stomach to accommodate food
- Large udder
- Lean body with little flesh

(4 x 1 = 4 marks)

**b)**
- Age of animal
- Level of performance / production
- Physical fitness
- Health – Animals selected must be health
- Body conformation – Animals for breeding should be selected according to their body conformation.
- Temperament or behavior – Some animals within a breed might have bad temperament or undesirable behaviors such as cannibalism and egg eating in the case of poultry.
- Quality of products – Select animals that give products of high quality
- Mothering ability – Animals selected should have a good mothering ability, which are animals with good natural instinct towards their young ones.
- Adaptability – Animals selected should be well adapted to the prevailing climatic conditions.
- Prolificacy – Select animals which are highly prolific, that is animals with an ability to give birth to many offsprings at a time.

(9 x 1 = 9 marks)

**c)** i) **Cause**
- Low level of calcium in the blood of a cow. (1 mark)

ii) **Symptoms**
- Staggering
- Muscular twitching
- Complete anorexia
- Animal becomes unconscious
- Animal lies on the sternum with neck twisted backwards.
- Dullness
- Caseation of body functions
- General paralysis.

(4 x 1 = 4 marks)

iii) **Control measures**
- Practice partial milking in cows with a history of milk fever.
- Feed animals with diet rich in calcium during pregnancy
- Intravenous injection with calcium salts / calcium borogluconate in animals with milk

(2 x 1 = 2 marks)