443/ 2 AGRICULTURE (2018)
KCSE TRIAL EXAM
PAPER 2
MARKING SCHEME

SECTION A (30 marks)

1.-Presence of impurities or foreign materials
- stage of ripening /mature/under 17% moisture contact
- Method of extraction.
-season of the year
-source of nectar
-over smoking
(any 4 x ½ = 2mks)

2. -Spring tine harrow/rigid time harrow/ox-time harrow
- Spike toothed harrow/peg toothed harrow
- Rotavators
- Disc harrow
-Chain harrows
-Zigzag harrows. (*any 4 X ½ = 2mks)*

3. - Damage of uterus through injuries or injections.
- Venereal disease (e.g Brucellosis)
- Retained placenta
- Lack of essential nutrients e.g e, selenium and manganese
-Blockage of fallopian tubes
-Frematic (heifer born twin with a bull)
-Hormonal failure /hormonal imbalance.
(any 4 x ½ = 2mks)

4 – To avoid injury to user and others /animal
- To make tools last longer
- To reduce maintenance and replacement cost.
-To make tools more efficient
(any 2 x 1 = 2mks)

5. - Kind of dairy shed
- Cost of materials
- Environmental conditions e.g climate, soil type
- Availability of skilled labour from construction
-Availability of material
-Availability of capital
-Durability of materials
(any 2 x ½ = 1mk)

6. - Wind power
- Water power
- Human power
- Animal power
- Biogas
- Wood fuel
- Charcoal
- Fossil fuels – petroleum.
(any 4 x ½ = 2mks)

7.- Chicks move away from heat source
- Wings are opened or spread
- Excessive drinking of water
-Panting /beaks open
-Making abnormal noise
-Chick may lie flat on their bellies.
(any 4 x ½ = 2mks)

8. - A calf can be reared if the mother dies at birth
- The calf can be given the correct amount of milk
-Many calves can be reared at a time
-Clear records of milk yield can be kept
(any 3x ½ = 1½mks)

9. - Dead embryo
- Meat/blood spots
- Cracked shells
-Lack of yolk/double yolk
-Wrong position of air space
-Broken chalazae
(any 3 x ½ = 1½mks)

10. - Dark watery blood oozing from all artices
- Blood does not clot
-Stomach blown out excessively
-Absence of rigormortis
(any 2 x 1 = 2mks)

11 -Making familiar sound
-Presence of the calf
-Washing the under with warm water
(3x ½ =1½ mks)

12. - Long storage beyond five (5) days/poor storage. - When the egg is small in size/or over size.

- Presence of dirt on the shell.
- When the shell is broken/soft shelled.
- When the shape is abnormal. *(4 x ½ = 2mks)*

13. - To maintain the bees during times of feed scarcity.
- To attract bees into the bee hive.
- To encourage multiplication of bees.
- Easier access to food. *(4 x ½ = 2mks)*

14. - Lacrimation.
- Rough/staring coat.
- Diarrhea.
- Blood stained feaces.
- Sores on the skin. *(4 x ½ = 2mks)*

15. - To determine the sow's mothering ability.
- To determine the level of management of the sow during the gestation period.
- To Necessities selection as a breeding stock, for culling or for selling purposes.
- To know the weight gain or food conversion ratio. *(4 x ½ = 2mks)*

16. - Adrenalin.
- Oxytocin. *(2 x ½ = 1mk)*

17.(i)Is removing of wool around the penis of rams to facilitate successful mating. *(1 x 1 =1mk)*

(ii)This is application of coloured paste on the belly of the ram for the purpose of identifying mated ewes. *(1 x 1 = 1mk)*

18. - When an animal shows signs of worm infestation.
- At one beginning and at the end of the wet season.
- Before and after giving birth.
- All the new animals brought to the farm.

19. i) 1. Piston. 2. Connecting rod.
3. Crankshaft. 4. Gear box
5. Propeller shaft. 6. Differential.
(6x1/2=3mks)

ii) Hitching. *(1mk)*

iii)- One point hitch.
- Three point hitch. *(2x ½ =1mk)*

20 a) -ear notching *(1mk)*

b) - Ear tattooing
- Ear tagging *(2x1=2mks)*

c)- Selection and breeding
- disease control and treatment
- Feeeding
- Record keeping
- culling (*any 2x1=2mks)*

21. ***a)*** G- Wall H- cross tie -J- Strat K- Purlin *(4 x ½ = 2mks)*

b) ***Function of roof***
- Harvest H_2O -prevent leakage/leak-proof *(2 x ½ = 1mk)*

c) -Trass. *1mk*

22. a) ***Type of gate*** -Barbed wire gate *1mk*

b) -D- dropper -E-wire loop *(2x ½ = 1mk)*

c) i) -Support the gate/reign the king post *1mk*

ii) Functions of the gate

- Prevent intruders/wild animal into the farm -Prevent livestock from moving out of the farm
- Used as entrance into/exit from the farm/control grazing in paddocks *(2 x ½ = 1mk)*

23. a) feeding practice -Artificial rearing/bucket feeding
(1 x ½ = ½mk)

b) i) Procedure of rearing practice -Put clean milk in a clean bucket
- Place the index finger into the calf's mouth
- Lower the finger slowly until it is submerged in milk -Slowly withdraw the finger
- Repeat steps (i)- (iv) until the calf learns. *(5 x ½=2½mks)*

ii) Precautions in rearing practice -Right amount
- Interval feeding -Right temperature
- Clean equipment -Observe personal hygiene.
(24 *x ½ = 1mk)*

24.a) M-Log hive -N- Kenya top bar hive. *(2 x ½ = 1mk)*

b) Advantages of the Kenya Top Bar Hive over the log hive
- Top bars can be easily removed and replaced during inspection
- Possible to exclude queen from honey combs
- Honey harvested likely to be less contaminated. *(4 x ½ = 2mks)*

c) Methods of stocking hive -Using a swarm catcher
- Smearing the hive with honey/wax sheep sorrel. -Using a catcher box
(2x ½ = 1mk)

25ai) - spraying livestock against external parasites - identity
- Administering prophylactic drugs to the animals - vaccinations
- treating sick animals *any 5x1=5mks*

ii) -Prevent animal from injuring another animal. -Make animal docile.
-For easy transporting, feeding and drinking -Prevent destruction of farm structures
-Aesthetic value of the animal *5x1=5mks*

b i) Birna virus *1mk*

ii) Glands above the vent (bursa) becomes swollen -decrease in eggs production
- respiratory diseases -loss of appetite
- There is severe immune-suppression making the birds more susceptible to other diseases.
- Hot weather and high humidity condition the death rate increases (mortality rate)
- low water intake *any 6x1=6mks*

c) Good feeding -Provision of a clean environment
- Neutralizing the ill effects produced by the diseases -inducing repair of damaged tissues
- Relieving discomfort or injury to the animal -preventing further infection
any 3x1=3mks

26 a)

Diesel engine	Petrol engine
- Has injector pump	- Have a carburetor
- Fuel and air are mixed within the cylinder	- Mixed
- Fuel ignited by compression of fuel/air mixture	- Ignited by electric spark
- Produce a lot of smoke	- Produce less smoke
- Relatively heavy in weight for heavy duties	- light in weight suited 4 light duties
- Can operate without a battery	- cannot operate without a battery.
- Use less fuel	- Use more fuel
- Has few starting problems	- More starting problems
- Has high compression ratio	- Low compression ratio
- Diesel is low flammable	- Petrol is highly flammable
- More noise	- Less noise

Any 10x1=10mks (Mark as a whole)

Bi) - availability of the materials -Cost of the materials
- Suitability of the materials -Durability of the materials
- Strength of the materials -Workability of the materials
- Suitability of each type of material to the prevailing weather conditions *any 5x1=5mks*

ii) -Sidewalls-provide support to the piping system and ensure is directed back to the pump through the drainage pipe
- spray pipe system- consists of pipes fitted with nozzles which are placed on regular intervals strategically
- drainage pipe-conducts the used chemicals back to the pump for recycling
- Pump/reservoir -is the mixing tank fitted with an agitator pipe and a centrifugal pump.
- Pressure gauge – measure the recommend working pressure of the pump

Any 5x1=5mks

27a) mouth – food is chewed and mixed with saliva Saliva amylase/ptyalin converts starch to maltose
Stomach – food is temporary stored, churned and mixed up.
- Gastric juice is secreted by the gastric glands.
- It contains HCl- create acidic medium for action of enzymes and kills harmful micro-organisms.
- Pepsin- breaks proteins into peptide and peptones
- Rennin – coagulated milk

Small intestine
Deuodenum-There is bile that neutralizes acidity of food making it suitable for action enzyme trypsin. It also emulsifies fat
- Pancreatic amylase- converts starch to maltose
- Lipase- converts fats to glycerol and fatty acids
- Trypsin- converts proteins to peptones and peptide
- Jejunum- production of intestinal juice
- Erepsin (peptidases)- converts peptones and peptides to amino acids.
- Maltase- converts maltose and glucose
- Succase (invertase)- converts sucrose to glucose
- Lactase- converts lactose to glucose
- Ileum- absorbed all end products of digestion *10x1=10mks*

b) - Avoid overcrowding by providing enough floor space in the poultry house
- Avoid boredom in the flock by keeping the birds busy/hang some vegetables for the hens to keep themselves busy
-avoid extreme temperatures in poultry houses/insulate the house to maintain constant temperatures
-Provide adequate and balanced diet -Discourage sudden change in routine
- Handle the birds with care -keep off strangers from poultry houses
-Control pests and diseases -control vermines in the poultry house
-Avoid sudden noises near the poultry house - Discourage anything that leads to vices
- Discourage introduction of new birds in an existing flock

(10x1=10mks