**AGRICULTURE**

**PAPER 2**

**MWAKICAN JOINT EXAM TERM 2 -2017**

**MARKING SCHEME**

**SECTION A**

1. – Curing method
* Ratio of clay to sand
* Preparation method
* Nature of clay material 4 x ½ = 2 Mks
1. – Promote growth
* Help in blood clotting
* Help in bone formation
* Help in mascular development
* Act as organic catalyst
* Prevent diseases 4 x ½ = 2 Mks
1. – Highly palatable
* Highly nutritive
* Highly digestive 2 x ½ = 1 Mk
1. – Digging hard soil
* Removing roots,stocks
* Breaking digging pits 2 x ½ = 1 Mk
1. i) Drain the acaricide so that it can flow back to the dip tank / avoid wastage

ii) Avoid animals contaminating the fields with dripping acaricides from their bodies

 2 x ½ = 1 Mk

1. i)– Old age
* Difficult in farrowing
* Serious injury
* Poor mothering ability
* Low fertility
* Poor health
* Low prolificacy
* Slow growth rate in offsprings 2 x ½ = 1 Mk

ii) Ringing is the removal of wool around the reproductive organ of a ram while crutching is the removal of wool around the reproductive organ of a female sheep to facilitate mating.

 1 x1=1 Mk

1. Wood chisel is for cutting grooves on woods,chopping rough surfaces and in joining word on word. cold chisel is used to shape stones / cut thick metal sheets. 2 x 1 = 2 Mks
2. – Ability to browse
* Survive on little water
* Withstand extreme temperature
* Ability to walk long distance in search of food. 3 x ½ = 1 ½ Mk
1. i) Use of nets / scoop nets

 ii) Use of string and hook method 2x ½= 1mk

1. – Masons Trowel
* Wood / metal float 2 x ½ = 1 Mk
1. - Fences
* Foot bath
* Crush
* Cattle dip
* Pit latrine
* Zero grazing units / sheds

4 x ½ = 2Mks

1. - Good body conformation / wedge shaped
* Docile / mild temperament
* Record of good performance of ancestors
* Good body size
* Good health record
* Adaptability to the area
* Not a free martin ie. Not born twins with a bull 6 x ½ = 3 Mks
1. Inbreeding is mating closely related animals whereas out crossing is mating unrelated animals within the same breed. 2 x 1 = 2 Mks
2. a)–Shortage of food / water
* Damage of brood combs
* Lack of adequate ventilation
* Overcrowding
* Dampness or bad smell
* Sick or infertile queen
* Outbreak of diseases in the colony 6 x ½ = 3Mks

b) –Use of the swarm net

 - Use of a Catcher Box

 -Placing a hive in a permanent place 1 x 1 = 1 Mks

 15) - To control breeding diseases

* To control breeding / inbreeding
* For faster growth rates

 -Increase quality of meat by removing unpleasant smell 4 x ½ = 2Mks

1. - Increase and maintain high milk yield after birth.
* Promote good health of the mother
* Ensure birth of healthy vigorous calves
* Helps to build up reserves to provide energy during parturition 2 x ½ =1 Mk

1. - Contamination of honey with brood
* Crushing of bees due to poor lighting
* To avoid accidental bush fires
* Difficult to distinguish the honey combs

 3 x ½ = 1 ½ Mks

**SECTION B**

1. a) M – Lack of Vitamin B2 (Riboflavin)

 N – Lack of Vitamin D 2 x 1 = 2Mks

b) i) M – Give birds whole grains and their by products

 N – Expose birds to sunlight, feed them on green grass. 2 x 1 = 2 Mks

 ii) Sunlight and green plants. 2 x 1 = 2 Mks

1. a) Poultry / chicken 1 x 1 = 1 Mk

b) S – Crop

 T – Gizzard

 W – Caecum 3 x 1 = 3 Mks

c) S - Store food temporarily / Moisten food

T – Grinding of food with help of sliding movement of tough / thick muscles and presence of grit. 2 x 1 = 2 Mk

1. a) K – Garden / Manure fork

L – Pruning shear

M – Sprinkler

N – Spade 4 x ½ = 2 Mks

b) K – Collecting manure and trash

 L – Trimming hedges and shrubs / fence 2 x 1 = 2 Mks

1. a) Raddling 1 x 1 = 1 Mk

b) - Helps in keeping accurate records and breeding / indicates which male served which female

* Detects unserved / unmated doe / ewe
* Helps to know which male are infertile

**SECTION C**

1. a) – Source of water for filling the dip
* Accessibility preferably centrally placed for communal use
* Type of soil, not easily eroded and should not allow seepage
* Wind direction – on the leeward side
* Space for construction
* Gentle slope to ease drainage
* Away from natural sources of drinking water to avoid pollution. 4 x 1 = 4Mks

b)

1. Side walls – Provide support to the piping system and ensure the spray wash is directed back to the pump through drainage pipe.
2. Spray pipe system – Consist of a series of pipes fitted with nozzles to atomize chemicals late spray intervals
3. The pressure gauge – to measure recommended working pressure of the pump
4. Drainage pipe – clears the tank whenever it is to be replenished and conducts used chemical back to pump.
5. Reservoir for recycling tank – contains the acaricide
6. Control valves – open the delivery pipes to allow for flow of chemicals
7. Pump – conveys / pumps the acaricide from reservoir to drainage pipes with the spray pipes system. 6 x 1 = 6 Mks

c) - High operations cost

* Expensive to maintain
* Require highly skilled personnel to operate and maintain
* Only economical for large herds
* Nozzles tend to clog with dirt in wet weather.

5 x 1 = 5 Mks

d) - Easy for inspection of combs

* Honey combs can be removed without disturbing the brood
* High quality honey when harvested
* Cheap to build and maintain / repair
* More wax is harvested
* Don’t require expensive equipment to extract honey. 5 x 1 = 5Mks
1. a) Management of sheep from mating upto including weaning of lambs
* Flush the ewe by giving extra concentrates highly nutritious feed 3 weeks before mating
* Continue flushing 3 weeks after mating
* Clip wool around the vulva to facilitate easy mating clutching / tugging
* Raddle the ram before mating
* Clip wool around the sheath of ram / ringing
* Ram should be used at the rate of one ram about 3 ewes for tupping season
* Time the mating so that lambing coincides with the season when there is plenty of pasture
* If more than one ram is used for mating use a different colour for each ram in raddling
* Remove rams from ewes / after the mating season / 3 weeks after mating
* Feed ewe on good pasture / concentrates 3-4 weeks before lambing / steaming up
* Move ewes to clean pastures 3 weeks before lambing
* Deworm ewes 2-3 weeks before lambing
* Vaccinate ewes 2-3 weeks before lambing against common diseases e.g. pulpu kidney lamb dysentery diseases
* Provide clean water to the sheep
* Provide shelter for lambing
* Observe for signs of lambing and supervise lambing
* Disinfect the naval cord immediately after
* Ewe s that give birth to more than one lamb should be given extra feeding
* Weak lambs should artificially reared
* Rejected / orphaned lambs should be given to foster mothers
* Keep lambs and the ewes on good posture
* Dock the lambs within the first 2 weeks
* Castrate male lambs not needed for breeding within two weeks
* Introduce creep feed to the lambs from 6 weeks
* Dip/spray/ dust the sheep as necessary against ecto-parasites
* Wean lambs between 4-5 months at 22Kg live weight
* Trim hooves before mating
* Deworm the lambs before weaning
* Identify lambs using appropriate methods
* Keep proper records.

Mentioning – 6 Mks

Explanation – 6Mks total 12mks

b) - Using the right tool for the right work

* Proper handling when using tools and equipment
* Cleaning the tools after use
* Storage of tools at the right places
* Replace and repair worn out part of the tools
* Grease moving parts, bearing, etc.
* Oiling exposed parts to prevent rusting
* Straightening bent blades etc.
* Tightening loose, nuts and bolts 1 x 8 Mks
1. a)
2. Eggs laid on the ground hatch into 6 legged larva
3. Larva climb onto vegetation, then first host animal and suck blood then fall down
4. Larva on the ground molt into eight legged nymph, climb on to the vegetation, then the second host animal
5. Nymph on the ground mount into adult tick and climb onto vegetation then onto the third host animal
6. Adults suck blood from the third host animal and
7. Mate still when on the body of the third animal then fall down
8. Female on the ground engorged with fertilized eggs lay the eggs on the ground
9. Both female and male ticks die on the ground.

8 x 1 = 8 Mks

b)

1. Proper feeding and nutrition to avoid deficiency diseases
2. Proper selection and breeding to get disease resistant animals
3. Proper housing and hygiene to avoid overcrowding e.g. pneumonia
4. Isolation of sick animals to avoid contact
5. Imposition of quarantine / legislation e.g. Rinderpest
6. Use of prophylactic drugs e.g. in coccidiosis
7. Regular vaccinations to induce immunity e.g. brucelosis
8. Slaughtering and burning or burying of infected animals e.g. Anthrax
9. Use of antiseptics and disinfectants e.g. in foot rot control
10. Full vector controls e.g. tick and tsetse fly
11. Treatment of sick animals to avoid source of infection
12. Appropriate method of handling animals to avoid injury

12 x 1 = 12 Mks