KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

NAIROBI SCHOOL

AGRICULTURE

PAPER 2

MARKING SCHEME

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NAIROBI SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

AGRICULTURE

PAPER 2 / 443/2

MARKING SCHEME

1. Causes of stress in poultry
   - Introduction of new birds in the house
   - Overcrowding
   - Presence of stranger
   - High / low temperature
   - Poor ventilation
   - Parasite attack
   - Inadequate food and water
   - Poor handling of birds (½ x 4 = 2mks)
2. Maintenance of a cold chisel
   - Regular sharpening of chisel
   - Proper storage
   - Application of oil to prevent rusting
   - Removal of mushrooms that forms on the head after along use (½ x 2 = 1mk)
3. Factors leading to conception failures
   - Poor nutrition (flushing)
   - Poor timing of service
   - Infertility of either bull or female (½ x 2 = 1mk)
4. Hormones that influence milk let down
   - Oxytocin
   - Adrenaline (½ x 2 = 1mk)
5. Three factors that make embryo transplant unpopular
   - Its expensive
   - Labour demanding
   - Requires a lot of skill(½ x 3 = 1 ½ mks)
6. Suitability of boran in Kenyan Ranches
   - Able to utilize poor rough pasture
   - Can walk long distance in search of water and pasture
   - More resistant to local diseases
   - Tolerant to high temperatures
   - Maintain high bodyweight during dry conditions (½ x 4 = 2mks)
7. Factors that may lead to culling in dairy cattle
   - Bad health i.e those prone to diseases
   - Those with poor quality products
   - Old age 5 – 7^{th} lactation
   - Wild temperament cows
   - Those with breeding problems
   - Low level production (½ x 4 = 2mks)
8. Functional difference

   a) Cross cut saw and rip saw
   - Cross cut saw – used for cutting across the grains of wood while a rip saw is used to cut along the grains of wood. (2mks (mark ½ whole)

   b) Spirit level and a plumb bob

- Spirit level is used for checking weather a surface is vertical or horizontal while a plumb

bob is used for checking whether a tall wall is vertical 2mks (mark as whole)

c) Importance of breeding records
- Trace the performance of parent
- Control breeding management
- Predict performance of offspring
- Determine date of giving birth (½ x 4 = 2mks)

9. Control measures of a liver fluke in livestock
- Control of fresh water snail (Intermediate host)
- Physical picking and killing fresh water snails
- Drainage pasture during dry season
- Burning pasture during dry season
- Routine drenching of livestock with antihelminths (½ x 4 = 2mks)

10. Factors that influence respiration rate in animals
- Body size of animal
- Degree of excitement
- Ambient / environmental temperature (½ x 3 = 1 ½ mks)

11. Non chemical methods of controlling ticks in cattle
- Burning infected pasture
- Hand picking and killing ticks
- Rotational grazing
- Double fencing of pasture land
- Zero grazing / restrict movement of animals
- Ploughing infested pasture (½ x 4 = 2mks)

12. a) Role of queen in colony
- Lay eggs
- Production of pheromones (Queen substance) which keeps colony together
(½ x 22 = 1mk)

b) Signs of parturition in aboe
- Doe starts to make a nest
- Doe goes off speed a few days before kindlive (½ x 2 = 1mk)

13. Diffences between roughage and concentrate feed.
- Roughage is a feed with a high fibre content and low energy content while concentrate is a feed with high protein and energy content and low fibre content (2mks (mark as whole)

14. Reasons for dehorning
- Reduce space occupied in shed
- Make handling easier
- Reduce destruction of structures
- Make animal docile
- Reduce risk of injury (½ x 4 = 2mks)

15. Characteristics of landrace breed

- White in colour
- Lean and long
- Very prolific and sows have good mothering ability

16. a) X – Wire netting / woven wire fence
Y – Hedge / live fence (1 x 2 = 2mks)

b) Pruning shears (1 x 1 = 1mk)

c) Advantage of fence Y over fence X
- Hedge is more beautiful / has more aesthetic value
- Hedge acts as wind breaker/ reduce soil erosion

- Hedge is cheater to establish
- Hedge can be a source of fodder
- Can be a source of fruits
- Can be a source of firewood (1 x 3 = 3mks)

17. a) Deficiency nutrient for condition
- Lack of manganese (1 x 1 = 1mk)

b) Functions of vitamins in livestock
- Promotion of growth
- Helps in blood cltting
- Help in bone formation
- Help in muscular activities
- Prevent diseases
- Act as organic catalyst (1 x 2 = 2mks)

18. a) Parts labeled
A – oviduct
X – Utetus (shell gland)
Y – Magnum (1 x 3 = 3mks)

b) Water, mineral salts and vitamins (½ x 2 = 1mk)

c) 5hrs (18 – 22hrs) (1 x 1 = 1mk)

19. a) A – Throttle valve
B – Nozzle
C – Float (1 x 3 = 3mks)

b) Function of carburattor
- Introduce air and fuel
- Atomises fuel into tiny droplets
- Regulates air fuel ratio by use of the choke and throttle respectively (1 x 2 = 2mks)

c) Type of fuel system
- Petrol fuel system (1 x 1 = 1mk)

SECTION C

20. a) East Coast Fever Disease
(i) Casual organism theirellia Parva / protozoe
(ii) Symptoms (1 x 1 = 1mk)
- Swollen lymph nodes
- Animal develops a high temperature
- Animal salivates profusely
- Animal lacrimates
- Animal develops difficulties in breathing
- Animal will cough
- Animal will have sight impairment (1 x 5 = 5mks)

(iii) Control measure
- Spray the animal with acaricide to kill vector organism
- Fence the farm to keep off stray animals
- Treat sick animal with appropriate drugs (1 x 3 = 3mks)

b) Heart water, Red water, Nairobi sheep disease, tick paralysis, tick bite fever (2mks)

c) Life cycle of a three host tick
- Eggs laid in the ground
- Eggs hatch into larvae
- Larva climbs the first host
- It feeds till its engorged

- Engorged larva falls in the ground
- It moults into a nymph
- Nymph climbs the second host
- It feeds till its engorged
- Engorged nymph falls into the ground
- Moults into adult
- Adult climb on the third host
- It sucks blood engorged and mate
- Engorged adult fall down to the ground to lay eggs (1 x 8 = 8mks)

21. a) Factors to consider when planning floor construction of poultry house
- Topography fairly flat area
- Security – near the homestead
- Direction of wind – on leeward side of the farm
- Accessibility – be at a place easy to access from the farm house
- Room for expansion – leave enough space for expansion
- No of birds to keep – determine the size of the house
- Nearness to utilities – eg water and power lines
- Climate of the area – able to protect the birds from advance weather conditions
- Drainage – build on a well drained area to prevent dampness and flooding
- Types of birds to keep – i.e broiler or layers structure dufter(1 x 8 = 8mks)

b) Characteristics of good gilt for breeding
- Long body
- Have a deep body
- Have a clean cut jowl
- Legs well set apart
- Harms well developed
- Have 12 or more healthy teats
- Firm flesh
- Strong feet and legs
- Topline well arched
- Teats well spaced and well developed (1 x 8 = 8mks)

c) Factors influencing choice of building materials
- Availability – Select locally available materials
- Cost of materials – use those not very expensive
- Durability select those which are long lasting
- Workability – those which are easy to work
- Prevailing weather conditions – select those which are suitable to climate of the area
- Strength of materials consider strength in respects to use (1 x 4 = 4mks)

22. a) Causes of overheating in an engine
- Leakage in the water channels leading to water loss
- Blockage at the radiator firis
- Cracks on the cylinder head
- Worn out cylinder head gasket (1 x 4 = 4mks)

b) Maintenance practices in a cooling system of a tractor
- Keep radiator fins clean
- Fill air intake clean in air cooled engines
- Maintain the fan by ensuring the correct beef tension
- Always check the level of water in the radiator before startus
- Add water to the engine while the engine is running
- Insure the hoses are not blocked

- Ensure the MD stat is working well
- Flush the radiator every 300 hrs of workers
- Add rust inhibitors to stop rusting
- Always check and tighten bolts and nuts in the system (1 x 8 = 8mks)

c) Limitations of farm mechanization
- Skills required to operate tractor
- Expensive to hire/ buy a tractor
- High rate of wear and tear/ depreciation
- Small land pieces do not allow their use
- Unavailability of tractor for use when required
- Cannot be used on steep fields
- Cannot work on mash / wet fields
- Causes air pollution
- Expensive to run / fuel (1 x 8 = 8mks)