KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

STRATHMORE SCHOOL
AGRICULTURE
PAPER 2
MARKING SCHEME

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STRATHMORE SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016

AGRICULTURE

PAPER 2 / 443/2

MARKING SCHEME

1. Calf , piglet
   Heifer , pallet
   Sow , cock (6 x ½ = 3mks)
2. - Poor housing hygiene
   - Poor feeding – over feeding the calf on milk, feeding the calves on cold milk, lack of colostrums, feeding at irregular intervals (2 x ½ = 1mk)
3. a – Water snails
   b – pig , cattle
4. Help to identify the ewes that have been served by which ram (1 x 1= 1mk)
5. - The power output depends on the speed of moving water

   - Depends on availability of moving water
6. a) Bastard file is used for sharpening tools, smoothening and shaping edges of metals while Rasp file is for smoothening and shaping of wooden structures
   b) Coping saw is used for cutting curves on thin wood while hacksaw is used for cutting metals
7. - Crush
   - Halter
   - Bull ring and lead stick
8. a) Saanen
   - Toggenburg
   - Aglo – Nubian
   - Jamnapari (4 x ½ = 2mks)

   b) Two humps
   - Smaller than dromedary
   - Has more fur than dromedary (2 x ½ = 1mk)

   c) a) – Dullness
   - Muscular twitching causing the animal to tremble
   - Staggering as the animal moves
   - The animal lies down on its sides and the whole body stiffens
   - Body functions such as urination, defecation and milk secretion stop
   - Sudden death if the animal is not treated immediately
   - Complete loss of appetite (4 x ½ = 2mks)

   b) – Treatment
   - Prevention
   - Nursing care (2 x ½ = 1mk)

   c) – It is free from disease – causing organisms
   - 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 = 1 ½ mks)
10. Fuel system
    - Lubricating system
    - Cooling system

- Electrical system (4 x ½ = 2mks)

11. a) – Helps to keep the house warm
- To absorb moisture hence making the house dry (2 x ½ = 1mk)

b) – Coccidiosis
- Newcastle
- Fowl pox (2 x ½ = 1mk)

12. Raised permanent pens
Permanent calf pens with concrete floor
Mobile calf pens (3 x ½ = 1 ½ mks)

13. - Highly nutritious i.e. rich in proteins, vitamins, minerals and fats
- Rich in antibodies which pass immunity from the mother to the calf
- Has laxative effect which clears the first feaces from digestive system (4 x ½ = 2mks)

14. - Expected volume of run – off
Slope of the land / slope % (2 x ½ = 1mk)

15. One bird occupies $0.27M^2$
Area available = 9 x 3M = $27M^2$
1 bird = $0.27M^2$
? = $27M^2$
$= \frac{27M^2}{0.27M^2} \times 1 = 100$
= 100 birds

SECTION B (20 MARKS)

16. a) A – RIP saw
B – Cross cut saw
b) A – Cutting along the grains of wood
B – Cutting across the grains of wood

17. a) A – Rafter
B – Tie beam / cross tie
C – Parlin
D – Gutter (4 x ½ = 2mks)
b) – To collect rain from the roof
- To prevent rainwater from splashing soil onto the walls by preventing direct impact
(2 x 1= 2mks)

18. a) J – Fertilizer hopper
K – seed hopper
L – Delivery tube
M – Furrow opener (4 x 1= 4mks)
b) Lubricating movable parts
Replacing worn out parts
Cleaning the hoppers

19. a) i) Fowl pox
ii) Avianfox virus
b) – Loss of appetite
- Emaciation
- Birds become dull
c) – Affected birds should be removed and killed
- The remaining healthy birds should be vaccinated

20. a) – Timely operations / faster / more yields
- Reduce cost of labour / cheaper

- Can perform more heavy tasks
- More efficient operations / increase quality
- Reduces labour / saves on labour
- Increased production due to economies of scale (6 x 1= 6mks)

b)

Petrol engine	Diesel engine
i) It has carburetor	i) It has an injection pump
ii) Fuel and air are mixed in the carburetor before it gets into the engine	ii) The fuel and air are mixed within the cylinde
iii) Fuel is ignited by an electric spark	iii) Fuel is ignited by compression of air and fue mixture in the cylinder
iv) It produces little smoke because petrol is completely burnt	iv) It produces alot of smoke since the diesel is ot completely burnt
v) Petrol engine is light in weight and suited for light duties	v) It is relatively heavy in weight and suited for heavy duties

c) – Engine oil should be checked daily
- Fuel level should be checked at the start of everyday's work and added if necessary
- Water level in the radiator should be inspected
- Level of electrolyte should be checked daily
- The nuts and bolts should be tightened everyday
- Grease should be applied by use of grease gun through the nipples
- Large sediment from the sediment bowl should be removed
- The tyre pressure should be checked every morning before the days work
- The fan belt tension should be checked to ensure that it deflects between 1.0cm to 2.5cm when pushed
- The brake shaft bearing should be greased

21. a) – The frequency of dipping depends on the acaricide used and on the tick situation, otherwise once or twice per week
- Best time to do dipping is in the morning or when the weather is cool
- Water the animals before dipping to prevent animals from drinking acaricides solution as they are dipped
- Initially run 10 – 15 animals through the dip so that they mix the dip wash then dip them a second time
- Animals should be arranged in a single file as they enter the dip
- Dip the animals according to their ages
- Do not dip sick or pregnant animals
- Dip all the cattle the same day
- Take records of dipping and acaricides used (any 8 x 1 =8mks)

b) - Maintenance practices of a plunge dip
- Clean dipping tanks regularly
- Repair leaking roofs
- Repair cracks in collecting yards, footbaths etc
- Top up the level of dip wash with acaricides and water when necessary
- Replace broken timber and rails
- Clean footbath before and after dipping
- Regular testing of the dip wash concentration (any 6 x 1 = 6mks)

c) - Parts of a zero – grazing unit
- Milking stall
- Calf pens
- Sleeping cubicles / resting area
- Dunging / loafing area / exercise area
- Feed and water troughs / feeding area
- Feed preparation room / chaff cutter area
- Milk recording room / slave /
- Manure dump pit (any 6 x 1 = 6mks)

22. - Embryo – transplant / transfer technology in Kenya
- Embryo transplant / transfer is a technology of moving an embryo from a donor female and introducing it into a recipient female
- Selection of a cow / donor with superior / desirable qualities
- The donor is injected with gonadotropin and prostaglandin hormones
- The donor is injected with gonadotropin and prostaglandin hormones
- The hormones stimulate the donor cow to superovulate to many ova
- The semen of superior / desirable bull is used to fertilize the ova using A.I
- This increases the number of embryos produced by these two superior individuals
- The recipient cow's oestros are synchronized with the donors by injecting them with progesterone and prostaglandin
- The embryos formed in the donor cow are flushed out after seven days or sucked out
- Using a microscope the embryos are examined for viability
- The individual embryos are put in straws and stored at 37^0C
- At this temperatures, the embryos are transferred to suitable and prepared recipients
- The embryos are usually deposited in the fallopian tube of the recipient cow
* Advantages of embryo transfer include;
- Potential of a desired superior cow can quickly be enhanced
- Transport of embryos is easier
- Embryos may be stored for a long time
- Speed up the breeding process
* Disadvantages of embryo transfer
- Requires skilled labour and management of cows
- It is laborious
- It is very expensive (20 x 1 = 20mks)