
KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

MOI GIRLS ELDORET
AGRICULTURE
PAPER 2
MARKING SCHEME

SCHOOLS NET KENYA
Osiligi House, Opposite KCB, Ground Floor
Off Magadi Road, Ongata Rongai | Tel: 0711 88 22 27
E-mail: infosnkenya@gmail.com | Website: www.schoolsnetkenya.com

MOI GIRLS ELDORET KCSE TRIAL AND PRACTICE EXAM 2016

AGRICULTURE

PAPER 2 / 443/2

MARKING SCHEME

1. Tattooing
 - Using neck straps
2. Gizzard adaptations: - It has strong/thick muscles
 - Contains grits which pierce the feed e.g. grains
3. Causes of diseases: Living organisms/pathogens e.g. bacteria/virus
 - Nutritional deficiencies e.g. bloat, milk fever rickets
 - Trauma/physical injuries
 - Poisons
 - Inheritance
4. Vaccines can be ineffective due to
 - Wrong method of administration
 - Incorrect dosage
 - Poor storage /expired vaccine (should be at freezing temp. $-20-4^{\circ}$)
 - Not matching the vaccine relevant disease/livestock
 - Wrong timing i.e. if given after infection
5. Dairy goat breeds: Saanen, toggenberg, Anglo Nubian
 - British Alpine; Indian Jamnapari
6. Properties of colostrums: - Nutritive/rich in proteins, energy, vit
 - Has laxative effect/cleaus gut
 - Confers immunity against disease
7. Characteristics of a cow:
 - Triangular in shape
 - Well developed under with large/long teats
 - Large stomach to accommodate more feeds
 - Learn with protruding pin bone
 - Small head with protruding/large eyes
8. Implements powdered by P.T.O:
 - Mowers e.g. reciprocating mower/lawn mower
 - Power/chain saw
 - Boom sprayer/sprayers
 - Planters
 - Rotavators
 - Fertilizer spreaders
9. Reasons for castrating billy goats:
 - To control in breeding
 - Control breeding
 - Prevent breeding/control breeding diseases
 - For faster growth
 - Improve quality of meat by removing bad smell
10. Breeds identity
 - (i) Large white – dished face, erect ears, white
 - (ii) charolais – large, cream white in colour
 - (iii) Angora goat – long white mohair

- (iv) Corriedale – long crimp/curly wool covering its face
11. Qualities of whole milk
 - Homogenous
 - Free from pathogens
 - Free from bad odour or taste
 - Chemical composition within expected standards
 - Clean/creamish white in colour-fresh from solid dirt e.g. hair, soil, dust
 12. (i) Out crossing is the mating of unrelated animals within the same breed while e.g. Friesian in Kenya and Germany cross breeding is the mating of two animals from different breeds e.g. Friesian and Anyshire
 - (ii) Artificial insemination involves use of sperms from superior bull to heifer/cow on heat while Embryo transplant involves transfer/implantation of an already fertilized ovum/embryo from superior cow.
 - (iii) Steaming up is providing extra feed of high quality to agestating ewe in the last 3-4 wks for rapid foetal development while flushing is provision of high quality feed to ewes 2-3 wks before tugging/mating to increase ovulation and conception rate.

Functions

- (1) Shear – cuts furrow slice
 - (2) Landside – counteracts the side forces hence keeps plough on steady straight line
 - (3) Depth wheel – determines the depth of ploughing/used to adjust the ploughing depth
 - (4) Coulter – cuts trashes/prevents soil from sticking on moldboard.
14. Reasons for maintaining farm machines:
 - For efficiency
 - Avoid frequent replacement/to last long/durability\
 - Reduce cost of maintenance
 - Minimize/prevent injury to the user
 15. Viral diseases: Gumboro, Newcastle, Marek
 - Protozoan disease: Nagana, Anaplasmosis, coccidiosis
 - Bacterial diseases: Anthrax, trypanosomiasis, brucellosis
 16. Lucerne is withered before feeding to prevent bloat
 17. Benefits of deworming pigs: To produce safe pork/prevent tape worm infestation to man /healthy products/Improve on pork production/fast growth and early maturity
 18. Oxytocin
 19. Caecum

SECTION B: 20 Marks

- (a) Egg candling
- (b) Abnormalities detected during candling
 - Broken chalaza
 - Hair cracks on egg shell
 - Dead embryo
 - Absence of yolk or double yolk
 - Absence of air sac/space
 - Blood/meat spots in on yolk
 - Too porous shell
- (c) Candling is done 5th and 7th day to determine fertility and on 18th day to check presence of chick (2 marks)
- (d) Unusual behaviours: chicks have moved away to brooder wall due to much heat
Correction: Turn down heat/open windows and doors

- (e) Egg cleaned by clean, damp soft cloth
NB: reject washing or wet cloth
21. (a) A – Exhaust port
B – Inlet port
C – Transfer port
- (b) The stroke shown: Induction and compression stroke
- (c) Compression occurs in the crank case
- (d) Lubrication oil – Reduces friction hence increase efficiency
- Seals the gap between piston and cylinder wall
- Cleans engine parts/removes dirt, smoke
- P – Open ended fixed spanner
Q – Adjustable spanner
R – Ring spanner
S – Pipe wrench/monkey wrench/plumbers spanner
- (b) (i) P is a fixed spanner – used to tighten or loosen nuts/bolts of two different sizes only while
Q is adjustable spanner – can be used to tighten or loosen nuts and bolts of various sizes
NB: Mark as a whole
- (ii) Q and S Pipe wrench can be used to tighten cylindrical objects like water pipes as it has serrated teeth while Q (adjustable spanner) cannot because it has smooth edge
23. Fish pond
- (a) X – inlet furrow/channel
Y – spillway
- (b) X/inlet furrow bring in fresh oxygenated water
Y – Spillway – prevents overflow of water into the pond/maintains water level/removes deoxygenated water
- (c) Considerations when siting a fish pond
- be near source of water
- Topography/gentle slope preferred
- Soil type – clay soil preferred/holds water
- Far from natural sources of fish like lake
- Ground stable without large crack
- (d) Both inlet furrow and spillway are fitted with screens to prevent entry of strange fish or escape of fish respectively

SECTION C

24. (a) Role of livestock farming:
- Food supply/security – livestock products like meat, milk, eggs are human food providing protein.
 - Employment opportunity – livestock farmers e.g. dairy farmers are employed through livestock management i.e. zero grazing or herding. Vet officers agriculture teachers.
 - Provision of raw materials – products like skins and hides or wool are raw materials for manufacture of leather products e.g. shoes and clothes respectively
 - Income to farmers – the products, meat, milk, eggs are sold by farmers to earn income. Also oxen used for ploughing/transport.

- Offer market to agrochemicals and farm machinery – livestock farmers purchase drugs, acaricides, insecticides machines e.g. tractors, sprayers all these offer market to industrial products/goods.
- Foreign exchange earner to Kenya – Export of livestock e.g. camels/products leads to flow of foreign exchange between Kenya and foreign nations.
- Sports/recreation – games/sports like bull fight/cock fight are entertainments to Kenyans.

(b) Functions of worker bees

- Collect nectar and pollen grains gums, resin and water for making honey
- Protect the colony from intruders
- Feeds the queen, young bees and drone
- Cleans the colony/comb, removing dead bees
- Scouts for a new home when necessary
- Making honey and beeswax

(c) Harvesting honey procedure

- (i) Wear protective clothing like overalls, gumboots, veiled hat/cap and carry beehive tool, insecticide for emergency and appropriate container, smoker
- (ii) Approach the bee hive early in the morning or late evening when bees are less active. Do it quietly
- (iii) work the smoker and apply smoke into the hive through entrance holes to make bees inactive
- (iv) Remove the top lid then each comb in turn, scrape the bees and cut the honey comb using bee hive tool. Combs are on top bars
- (v) Place the honey comb in a rust proof container leave a small piece (3cm) of honey comb on the loop for continuity
- (vi) Replace back the bars and the lid to original position

25. Piglets are born after 114 = 3 days

a)

- The sow is usually put in a furrowing pen with creep area set aside for piglets. Then pen should be clean when piglets are born, the sow licks then dry. They are allowed to suckle.
- They are usually a litter
- (3-16). They are then placed in a creep area which is warmly (heated by electric/gas bulb). Creep area prevents mother lying on them. Creep feed should be given to piglets ad libitum. Also water which is clean is provided. E-6 hours after birth, piglets are weighted to determine birth weight.
- On the third day, they are given the first iron injection or pellets to prevent anaemia. They are also teeth dipped to prevent injuries to mothers teats and to themselves.
- The second injection is given on 18th day weighing is done weekly to monitor growth.
- Allowance of ½ kg per piglet is included in the feeding of the sow with sow and weaned meal.
- The furrowing pen should be cleaned daily including feeders and water troughs to maintain sanitation/hygiene
- Piglets are weaned at 8 weeks after birth and gradually introduced to other feeds
- They are separated from the mother, males castrated then all put in weaners pen.

Characteristics of a good layer

- A good layer has full combs and wattles which are bright red in colour
- Ruffled feathers due to frequenting the nest
- Oval vent due to frequent egg passage
- The vent is moist and active i.e. palpates
- The eyes are bright

- Breast bone is plausible/soft to touch
- Space between pelvic bones wide enough to fit 2-3 fingers
- The shanks less pigmented (also beak)
- The bird is active and noisy

26. (a) Four stroke engine operation

- The engine produces power in four strokes/cycles namely;
- Induction stroke: piston moves down, inlet valve opens letting in air – fuel mixture from carburetor into the cylinder. Exhaust valve is closed.
- Compression stroke: Piston moves up compressing air/fuel mixture. Both valves, inlet and exhaust closed.
- Power/ignition stroke: After maximum compression, spark plug produces electric spark which ignites the fuel mixture. This causes burning, expansion of the mixture forcing piston downwards. This produces power which rotates crank shaft. Both valves remain closed
- Exhausted stroke: Piston moves up, exhaust valve opens releasing exhaust gases. While inlet valve remains closed. Upward movement of piston assists in pushing out the exhaust gases. Then the cycle is repeated

(b) Functions of differential

- Converts direction of drive to right angles from the propeller so that power is transmitted to wheels.
- Adjusts the speed of rear wheels to travel faster or slower when turning at a corner
- Allows tractor to turn at sharp corners without skidding this reduces wearing out of tyres
- Makes it easy to control/steer tractor especially when negotiating corners
- Connects the propeller to wheel axles.