
**KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS**

FRIENDS SCHOOL KAMUSINGA

**AGRICULTURE
PAPER 2
MARKING SCHEME**

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FRIENDS SCHOOL KAMUSINGA KCSE TRIAL AND PRACTICE EXAM

AGRICULTURE

PAPER 2 / 443/2

MARKING SCHEME

SECTION A

1. Reason why irish potatoes should not be fed to non-ruminants
 - Contains a poisonous substance called solanic(alkaloid) which can poison
 - Cause digestion problem **(any 1x ½= ½ mk)**
2. Disadvantages of natural mating
 - Wastage of semen
 - Possible to transmit breeding disease
 - Rise cost of production because male needs maintenance
 - Large bulls can easily injure small females **(4x ½ =2mks)**
3. Four factors that may influence the respiration rate of a boar
 - Ambient temperature
 - Body size
 - Exercise done
 - Degree of excitement
 - Health status **(any 4x ½ =2mks)**
4. One method of increasing ploughing depth when using disc plough
 - By increasing the angle of cut
 - Use of hydraulic /draught control lever
 - Adding weight on plough beam
 - Raising the land wheel
5. Two reasons why Jersey breed is better suited for marginal areas than fresian breed
 - Eat little food
 - More resistant to high temp/heat
 - Jersey is an excellent grazer on poor pasture **(any 2x ½ =1mk)**
6. Two factors associated to the animals that determine the amount of food that an animal consumes
 - Body size/weight
 - Physiological condition of the animal
 - Level of production **(any 2x ½ =1mk)**
7. Type of breeding is;
Cross breeding
8. Safety measures which should be observed when using a cross cut saw
 - Hold the work securely
 - Ensure the saw is in good working condition/sharp/straight/well set leek/firm handle
9. Two reasons for treating timber for fencing
 - Prevent warping
 - Prevent rotting/fungal/damage
 - Reduce insect damage
 - For timber to achieve maximum strength **(2x ½ mks)**
10. Three reasons for carrying out castration in cattle
 - Stop uncontrolled breeding
 - Control breeding
 - Make bulls docile
 - To improve quality of meat/animals/fatten faster
 - Reduce breeding diseases

- Realise faster growth rate **(any 2 × ½ = 1mk)**
11. Differentiate between whole milk and skim milk
Skim milk is milk without fats or cream while whole milk is milk with fat/cream.
12. Factors considered in selection of a suitable site for a poultry house
- Topography
 - Security
 - Proximity to road / noise place
- Accessibility **any 3 × ½ = 1 ½ mks**
13. Three functions of fats and oils in animal body
- Constitutes body cells
 - Supply energy after oxidation
 - Excess is stored to insulate body and prevent loss of heat.
- 3 × ½ = 1 ½ mks**
14. Three calf diseases brought about by wet conditions within the calf pen.
- Pneumonia
 - Scours
 - Navel illness
- 3 × ½ = 1 ½ mks**
15. Four advantages of farm mechanization
- Timely operations/faster
 - Economy of labour demand
 - Efficient work
 - Can perform heavier tasks than human beings/ reduce drudgery
 - Cheap per unit in large operation
- (4 × ½ = 2mks)**
16. Four sources of power in the farm besides tractor
- Electricity
 - Wind power
 - Water
 - Human fuel
 - Animal power
 - Wood fuel
 - Charcoal
 - Fossil fuels –petroleum
- (any 4 × ½ = 2mks)**
17. Cause of soft shells in eggs
- Lack of calcium in diet
 - Attack by Newcastle disease (2 × ½ = 1mk)
18. Why additives are necessary when making silage
- To boost carbohydrate content of silage
 - Increase nutrient value of silage
 - restrict growth of undesirable micro-organism
 - To increase palatability of silage
19. What function is accomplished by droppers in a barbed wire fence
- Stop wires from sagging/maintain tension and wire
 - Maintain space between wires 2 × ½ 1mk
20. Role of an attendant during the time of farrowing in pigs
- Ensure piglets are free from membranes
 - Dispose still birth and after birth
 - Cut tie and disinfect umbilical cord
 - **Assist weak piglets to suckle colostrum** **any 3 × ½ = 1 ½ mk**
21. Functions of queen in a bee hive

- Lay fertile eggs
 - Produce pheromone to keep the colony intact
22. Four signs that would show a cow has died of anthrax
- Dark watery blood oozing from all orifices
 - Stomach blown out excessively
 - Blood does not clot
 - Absence of rigor mortis

(4 × ½ = 2mks)

SECTION B

23. (a) K-Tsetsefly
L-Tick
- (b) Disease transmitted by
K-Trypanosomiasis /Nagana
L-ast Coast fever, Anaplasmosis/gall disease/Nairobi disease /Heart water/Red water
½ mk
24. (i) Names of tools 1-6
- 1 -claw hammer
 - 2 -ball pein hammer
 - 3 -mallet
 - 4 -pliers
 - 5 -pincers
 - 6 -hack-saw
- (ii) Tools labelled 1 and 2
- 1-Driving in and removing nails
- 2-Riveting driving in nails straightening metalsheets
25. (i) names of tools 1-6
- 1 piston
 - 2 connecting rod
 - 3 crank shaft
 - 4 gear box
 - 5 propeller shaft
 - 6 Differential
- @ ½ x6=3mks**
- (ii) Technical term used to refer to attaching an implement to a tractor
Hitching ½ mk
- (iii) Types of linkage on tractor
- One-point hitch
- Two-point hitch each ½ km
26. (i) Parts S,R,U,V
- S-Muzzle/mouth
- R-Dewlap
- U-Tail switch
- V-Hock
- @ ½ x4=2mks**
- (ii) Any 2 areas @ ½ =1mk
- (iii) Characteristics of a good milk producer
- Straight topline
 - Long thin neck
 - Prominent milk veins/wells
 - well set apart hind quarters to accommodate large udder
 - Large udder with well positioned teat any 2x ½ =1mk
27. (i) Parts labelled A,B,C,D

- A-Disc
- B-Scraper
- C-Main beam/beam
- D-Furrow wheel

@ ½ x4=2mks

(ii) Functions of D

Counteract thrust created by discs and so balance the whole implement (1mk)

(iii) Maintenance on the implement

- Lubricate hub and furrow wheel bearing
- Repair broken discs
- Clean after days work
- Sharpen disc when blunt by hammering
- Paint or smear old engine oil to prevent rusting
- Tighten loose nuts and bolts

any 2x1=2mks

SECTION C

28. (a) (i) Extraction of honey using heating method

1. Heat some watering in a sufuria / water bath
2. Put combs in an enamel basin or any non-iron container
3. Put the container with honey combs on the building water.
4. Heat the water until most of the honey melts.
5. Separate the melted honey from the combs by straining through a muslin cloth.
6. Keep honey in a container to cool down
7. Remove the wax layer formed in the surface of the honey.

NB/marked procedurally

(7x1=7mks)

(ii) Three factors affecting the quality of honey

- Type of plant donating nectar
- Maturity of honey at the time of harvesting
- Method of harvesting / skill
- Method of harvesting

any 3x1=3mks

(b) Parts of a tractor fuel system and their functions.

(i) Fuel lift pump

- Forces fuel to the injector pump in diesel engines or to carburetor in petrol engine.

(ii) Carburetor

- Introduces air and fuel into petrol engine

(iii) Injector pump

- Injects diesel into diesel engine through injector nozzle. it regulates the amount of fuel discharged hence controlling the engine speed.

(iv) Leak off-return line

- Allows of excess fuel from the cylinder to flow back into the fuel tank.

(v) Fuel filter

- Remove any dirt which may cause blockage in the injector pump or carburetor,
Component=1mk

5x1=10mks

Function =1mk

29. (a) Five daily maintenance services on a tractor and state the parts involved.

(i) Battery

- Check level of electrolyte and add distilled water if plates are exposed.
- Check specific gravity of electrolyte using a hydrometer, make appropriate

adjustment

- Clean the terminals if dirty

- Recharge if voltage is low
- (ii) Engine oil
 - Check level & state of the engine oil by use of a dipstick add more oil level is low.
- (iii) Fuel-check fuel level in the fuel tank before starting off days work.
- (iv) Tyres
 - Check tyre pressure with pressure gange and adjust accordingly
- (v) Differential oil
 - Check differential oil & either add or change as deemed appropriate.
- (vi) Fan belt
 - Check tension of fan belt, tighten if it is loose.
- (vii) Air cleaner
 - Check for the state of oil in the air cleaner bowl and change if dirty.
- (viii) Nipples
 - Unblock blocked nipples
- (iv) Nuts and bolts
 - Tighten loose nuts and bolts or replace lost ones.

Part=1mk

Explanation=1mk **Any 3×2=10mks**

- (b) (i) Characteristics of a poor layer, which should be considered during culling(7mks)
 - Combs and wattles are small, dry and cold
 - Vent is small, dry and pigmented
 - The space between pelvic bones is narrow 2-3 fingers cannot fit in the space between the pelvic bones.
 - Plumage is usually shiny,well pruned or sometime moulting
 - Yellowish pigmentation is common in the vent beak and shark.
 - Space between the keel bone and pelvic bone is small 3-4 fingers cannot fit
 - Eyes dull and pale yellow
 - Abdomen is hard
 - The layer is lazy and dull
 - Hen becomes broody too early. **Any 7×1=7mks**
- (ii) Control measures against roundworms
 - practising rotational grazing and resting pastures so as to starve the larvae to death.
 - avoid contact of hay and other feeds by contaminated faeces/dung
 - improving sanitation in animals houses by ensuring that the infected dung is removed before getting into contact with the animals.
 - Drench all animals with appropriate antihelminthics regularly.

- Ensure proper use of latrines by the farm workers/human. **Any 3×1=3mks**
- 30. (a) Factors that a farmer should consider when constructing a farm structure
 - Site in relation to other building/farm activities
 - Orientation in relation to wind direction
 - Purpose / design
 - Size of enterprise
 - Materials i.e type/cost/availability/durability
 - Capital availability
 - Flexibility/alternative use of structure
 - Required skill for construction
 - Government regulations
 - Type of building-permanent or temporary
 - Future expansion

- Accessibility/easy the reach from most parts of the farm
- Drainage /Topography –good drainage to avoid structure from being destroyed by water/becoming damp/very steep areas may be very expensive to level.
- Security-should be safe from predators/thieves
- Proximity of amenities e.g electricity and water supply
- (b) Predisposing factors of mastitis diseases
 - (i) Age –old animals are most likely infected than younger ones.
 - (ii) Stage of lactation period
 - animals likely to suffer from mastitis at the beginning and at the end.
 - (iii) Udder attachment
 - Animals with large pendulum or loosely hanging udder and long teats are more susceptible
 - (iv) Incomplete milking
 - milk left in the teat canal act as a culture media for bacteria.
 - (v) Mechanical injuries
 - wounds on the teats or udder allow micro-organism
 - (vi) Poor sanitation
 - increases the multiplication of bacteria causing mastitis
 - (vii) Poor milking technique
 - many results in mechanical injury of teats and weakening of the sphincter muscle of the teat.

State 1

Explanation=1 **(any 5×2=10 marks)**