KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

MANG'U HIGH SCHOOL

AGRICULTURE

PAPER 1

MARKING SCHEME

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MANG'U HIGH SCHOOL KCSE TRIAL AND PRACTICE EXAM 2016
QUESTION PAPER 1
MARKING SCHEME

1. - Animal diseases and parasites are easily controlled
   - Proper breeding programmes may be arranged
   - Pastures are improved through weed control and weeding
   - Water is provided
   - Supplementary feeding of animals is used when there is insufficient grass.

   Any 4 x ½ = 1mk
2. i) When soil fertility goes low, crops are not grown until fertility is restored
   ii) Requires availability of plenty of arable land
   iii) Practical with annual crops
   iv) Low yields
   v) Use of simple tools. **Any 4 x ½ = 2mks**
3. i) Labour records
   ii) Field production records
   iii) Production records

   iv) Marketing records **4 x ½ = 2mks**
4. - Maximize profit
   - minimize costs
   - Meet demand to the satisfaction of the consumer
   - utilize resources effectively and efficiently
   - Increase production **2 x ½ = 1mk**
5. - Lack of rain leads to crops wilting
   - Lack of rain leads to livestock death
   - Too much rain may lead to water logging and soil erosion
   - Heavy stores may break crops
   - Too much rain may lead to diseases in some crops
6. a) - Weed have throrus that discourage workers
      - Produces many vehicle seeds
      - Weed has extensive root system difficult to uproot
      - Regenerates when cut **Any 3 x ½ = 1 ½mks**

   b) - Aerates the soil
      - Earthing up may be done during the weed control
      - May expose soil pests to harsh environment thus killing them.**3 x ½ = 1 ½mks**
7. - To control erosion
   - To conserve soil moisture
   - To minimize the cost structure
   - To maintain soil structure
   - To prevent root disturbance and damage. **4 x ½ = 2mks**
8. Seedbed is land prepared ready to receive planting materials whereas a seedling bed is prepared special nursery where provided seedlings are transferred. **NB. Mark as a whole**
9. i) to increase the contact of seed with the soil for easy germination.
   ii) To crash large soil clods
   iii) To compact soil preventing wind erosion
10. - To increase soil aeration
    - To raise the soil temperature

- To increase microbial activities
- To reduce soil erosion
- To increase the volume of soil
- To reduce tonic substances. **Any 4 x ½ = 2mks**

11 - i) Wood ash – used to reduce the acidity of the compost manure which improves micro- organism activity
- acro increases the level of phosphorous and potassium
ii) Top soil – Introduces micro-organisms necessary for decomposition
iii) The stick is used to check the temperature of the manure
iv) Manure – provide necessary micro-organisms **1 x ½ = ½mk each**

12. They are rich in nitrogen **1 x 1 = 1mk**

13. i) 21 stands for the percentage of nitrogen√1 and 60 stands for the percentage of phosphorus√1 in the fertilizer.
ii
- May be lenched
- May be changed to free nitrogen by denitrifying bacteria

`15.

Crop	**Vegetative propagation material**
- Pyrethrum - Pineapple - Sugarcane - Irish potato - Banana, sisal , pineapple - Irish potato	-Split - Slip, crown, sucker - Stem cutting - Stem tuber - Suckers - Root tubers

16. a) To facilitate easy management of the nursery e.g in watering, weed control etc (1mk)
b) - Measures to the water source
- Type of soil
- Topography
- Security
- Previous cropping **4 x ½ = 2mks**

17. Tipping is the cutting back of shoots to the desired table height. (1mk)

18. Single stem pruning
- Multiple stem pruning **2 x ½ = 1mk**

19 It controls upward and encourage development of large fruits

20. to acclimatize seedlings to the conditions prevailing in the main field.

21. -maturity of the crop
- Moisture content of the material
- type of material used
- Addition of molasses grain etc
- Addition of water
- Extent of compaction
- Falling duration
- Leaf stem rates **Any 6 x ½ = 3mks**

22. Livestock make maximum use of the pasture
- Reduce the build up of pests and disease pathogens

- Animal waste is distributed evenly in all fields
- Pasture given time to regrow before it is grazed on again
- Excess pasture can be harvested for conservation
- it is possible to apply manure in parts of the pasture which are not in use.

23. a) i) By planting grass/suitable vegetation
ii) Channel/trench
b) Measure √ and mark√ the layout of drain
- Dig and remove√ soil from the channel and heap it on the lower√ side of the drain

24. a) H – cutter (1mk)
K – Drainage pipe (1mk)
b) Let out excess water (1mk)

25. a) Peas are legumes therefore help fix nitrogen that was used by maize.
- Maize and peas have different feeding level therefore peas utilize nutrients deeper in soil where the shallow maize roots may not reach.
- Are in different families therefore not attached by some parts and directions/lead to pest and disease control **Any two well explained = 4mks**
b) To rebuild soil structure and reduce erosion (1mk)

26. G – couch grass/Digitaria scalerum
H – Sodom apple/Solanum incusum
b) i) - Greatly reduce the yield of crops
- Folder for livestock
- Reduce quality of crops
- Increase production costs **Any 3 x 1 = 3mks**
ii) Perennial weed

27. a) 28 – 10 = 18 bags (1mk)
b) i) 12 bags (1mk)
ii) At 12 bags of fertilizer, measuring yield is realized OWTTE
c) 52/4 = 13bags (1mk)

28. a)Level of education and technology – High level of education help in solving problems such as use of poor methods of farming etc
- Health – successful farming requires vigour, strength, vision and determination only found in healthy bodies.
- Economy liberalization of Kenyan economy and world trade has led to dumping of cheaply produced and imported goods that have flooded local market fertility prices of agricultural products to drop.
- Govt policy – in order to encourage agricultural production, the govt should institute policies to regulate the amount of imported agricultural goods
- Transport and communication – ensures goods from the producers reach intended consumers in good time and farmers get market and research information in good time.
- Cultural practices and religious beliefs – they affect what people produce and consume
Any 5 well explained = 5mks)
NB 1mk for stating factor and 1mk for explanation

b) - Seed cleaning
- Seed dressing
- Seed inoculation
- Chitting
- Breaking seed dormancy **Any 4 x 1 = 4mks**

28. i) Water – for placing scions to prevent dehydration
ii) Grafting knife – For shaping the scion and rootstock to fit depending on the method
iii) Grafting tape – help to hold scion in position and avoid entry of water
iv) Grafting ware – applied in the grafted part to prevent water from entering the union.
Any 3 x 2 = 6mks

NB 1mk for identifying the material and 1mk for correct use

29. a) i) They provide the body with vitamins
ii) They have pleasant colours and smell which make food appetizing
iii) They provide the body with minerals
iv) Are good complements of staple foods
V) Source of raw materials to industries
vi) They can be sold to generate income

iii) Horticulture earns a country foreign exchange when exported. **Any 6 x 1 = 6mks**

b) Timely planting – early planted crops may escape pest infestation
ii) Timely harvesting – crop may escape attack of pests like grain weevil
iii) Close season – a period during which a susceptible crop must not be grown to ensure destruction of pest.
iv) Trap crop-a crop planted to attract pest away from the main crop
v) Crop rotation – starves pests associated with particular crop to death
vi) Plant persistent varieties- resist pest
vii) Field hygiene – minimize spread of pest e.g rouging
iv) Alteration of environmental condition crent micro-climate not conducive to form pests e.g pruning, mulching etc
v) Destruction of alternate host – help reduce pest infestation e.g weed control
vi) Crop nutrition – crop grows faster and stronger to escape and resist pests.

14 x ½ = 7mks NB ½ mk for each method and ½ for explanation.

29. - Use of stone lines
- Use of trash lines
- Building bunds
- Construction of gabions/porous dams/check dams
- Ridging
- Construction cut of drains
- Use of terraces
- Graned water ways **Any 7 x 1 = 7mks**

30a) i) - Introduce water into the field to a depth of 7.5 – 10cm before primary cultivation
- Leave the field submerged for 4 days then film of water about 1 weak

- at the time of transplanting leave a thin film of water for about 1well.
- Introduce water gradually into the field in the crop estelrirlies
- Maintain the water level at 1/3 the height of the crop up to 3weeks before harvesting.
- Water should be changed every 2-3 weeks or when cold
- Remove water 3weeks to harvesting
- water should flow slowly through the field **Any 7 x 1 = 7mks**

ii) Picking be done twice a week to avoid picking overripe cherries
- sorting should be done to remove undesirable cherries before taking to factory. (Undesirable include diseased, unripe, overripe, extremely small)
- Deliver to factory immediately **2 x 1 = 2mks**

b) - Difficult to supervise all scattered holdings
- Waste of time traveling from one holding to another
- Difficult of following a round farm plan arising from the small size of fragments
- Difficult of weed and pest control
-Difficult in carrying out soil conservation measures
- Difficult of offering agricultural extension advice
-Parcels may be small for mechanization. **5x1 = 5mks**

c) i) scarcity – the factors of supply are limited in supply and are therefore insufficient to supply all goods and services needed

ii) Preference and choice – the choice has to be made on how to allocate the limited factors of production to meet production needs

iii) Opportunity cost – is the value of the best foregone alternative when a resource factor is taken from its best alternative. **3 well explained = 6mks**