KANDARA SUB-COUNTY SECONDARY SCHOOLS FORM 2 2015
JOINT EXAMINATION
KENYA CERTIFICATE OF SECONDARY EDUCATION (K.C.S.E)

AGRICULTURE (443)
October/November 2015
MARKING SCHEME

SECTION A (40 MARKS)

1. **Advantages of organic farming**
   i) Relatively cheap
   ii) Improves soil water holding capacity
   iii) Improves soil structure
   iv) Creates a good habitat to soil organisms
   v) Gives healthy produce
   vi) Does not pollute the environment
   3 x 1 = 3mks

2. **a) Causes of hardpan**
   i) Repeated ploughing at same depth
   ii) Ploughing using heavy machines on wet soil
   2 x ½ = 1mk

   b) Implements used to break hardpan
   i) Subsoiler
   ii) Chisel plough
   2 x 1 = 2mks

3. **Conditions under which shifting cultivation is practised.**
   i) Practised where population is sparse.
   ii) Practised where land is abundant
   iii) Practised where number of livestock per unit area is low.
   iv) Where only annual crops are grown
   2 x 1 = 2mks

4. **Factors that determining depth of ploughing**
   i) Implement available
   ii) Type of soil
   iii) Crop to be planted.
   3 x 1= 3mks

5. **a) Tertiary operation**
   Ridging
   1 x 1 = 1mk

   b) Other tertiary operations
   i) Levelling
   ii) Rolling
   2 x 1 = 2mks

6. **Uses of the following chemicals in water treatment**
   i) Chlorine - To kill diseases causing micro-organism
   ii) Alum - for sedimentation/coagulation
   iii) Soda ash - to soften the water
   3 x 1 = 3mks

7. **Disadvantages of farm yard manure**
   i) It may spread diseases
   ii) It may spread weeds
   iii) Releases nutrients slowly
   iv) Its bulky hence difficult to apply by one labourer.
   3 x 1 = 3mks

8. **Functions of sulphur in crops**
   i) Protein synthesis
   ii) Formation of enzymes and hormones
   iii) Needed for chlorophyll formation
   iv) Needed in carbohydrate metabolism
   4 x 1 = 4mks

9. **a) Propagation materials**
   A - Banana sucker
   B - Stem tuber
   C - Bulb

D - Stem cutting/Sett

b) Chitting *1 x 1mk*

c) **Advantages of vegetative propagation on crop production**
i) Crop grows faster
ii) Uniformity of crop plants
iii) True copy of mother plant
iv) Easy to obtain
4 x ½ = 2mks

10. **Importance of thinning seedlings in the nursery bed**
i) To control spread of pests and diseases
ii) To avoid competition for light and nutrients
iii) Allow rapid growth of seedlings
iv) To create enough space for the remaining seedlings.
4 x 1 = 4mks

11. **Functions of the following components in a compost heap.**
i) Ash - Improves the levels of potassium and phosphorous
ii) Garden soil - introduces micro-organisms that are necessary for decomposition of organic materials.
iii) Organic manure - provides nutrients to the micro-organisms.
iv) Stick - for checking temperature within the heap.
4 x 1 = 4mks

12. **Types of inventories**
i) Consumable goods inventory
ii) Permanent goods inventory
2 x ½ = 1mk

SECTION B (30 MARKS)

13. **a) Identity of tools**
A - Pipe wrench
B - Adjustable spanner
C - Ring spanner   *3 x 1 = 3mks*

b) Advantages of tool B over C
B can be used on nuts and bolts of different sizes while C can only be used on bolts and nuts of one specific size.
1 x 1 = 1mk

c) Function of tool labelled A
- Tightening pipes or loosening of pipes during plumbing.
1 x 1 = 1mk

d) Function of part labelled X in tool B
- Opening or closing the jaws to enable it open or tighten nuts of different sizes.
1 x 1 = 1mk

14. **Physical features of a good dairy cow**
i) Wedge/triangular shape
ii) Have a straight top line
iii) Have a prominent milk veins
iv) Have lean bodies
v) Have large stomach
vi) Well developed udder with four well set teats
vii) Wide well set apart hindquarters.
5 x 1 = 5mks

15. **a) Parts labelled A, B, C and D.**
A - Brisket   B - Muzzle
C - Hock   D - Poll
4 x 1 = 4mks

b) Parts attacked by 2 host tick
Ears, anus, udder and tail
4 x 1=4mks

c) Procedure followed when hand spraying
i) Prepare acaricide solution to the correct strength in an appropriate container.
ii) Put the solution into a bucket spray pump or stir up pump.
iii) Remain the animal in a crush.
iv) Start spraying evenly at the back of the animal.
v) Next spray the belly region including the udder
vi) Spray the neck region and forelegs.
vii) Finally spray the head region.
viii) Allow acaricide to drip
ix) Allow the animal to dry for a few minutes.
i) Release the animal.
   10 x 1 = 10 mks

16. **Categories of foodstuffs**
   i) Roughages
   ii) Concentrates
   2 x ½ = 1mk

SECTION C (30 MARKS)
17. **Reasons for keeping livestock healthy**
   i) Good health ensures a long economic and productive life.
   ii) Healthy animals give maximum production
   iii) Healthy animal produce quality products
   iv) Healthy animals do not spread diseases to other animals.
   v) Healthy animals reduce production cost.
   vi) Healthy animals grow fast
   5 x 1 = 5mks

b) Symptoms of round worm attack
   i) Anorexia/loss of appetite
   ii) Staring coat
   iii) Dehydration and pale mucosa
   iv) Eggs and adults are seen in faeces
   v) General emaciation
   vi) Coughing
   vii) Pot bellies especially in young animals

viii) Anaemic condition when infestation is heavy.
   7 x 1 = 7mks

18. **Uses of farm records**
   i) Provide history of the farms
   ii) Help to detect any looses in the farm
   iii) Help to settle disputes between heirs
   iv) Help to show whether the farm is making profit or losses.
   v) Guide a farmer in planning and budgeting of farm operations.
   vi) Make it easy to share the profit and losses in partnership.
   vii) Helps to determine the value of the farm
   viii) Helps in assessment of income tax to avoid over and under taxation.
   ix) Help to compare the performance of different enterprise within a farm or other farms.
   x) Provide labour information like terminal benefits.
   10 x 1 = 10 mks

19. **a) Varieties of tomatoes**
   i) Fresh market
   ii) Processing
   2 x 1 = 2mks

b) Field management practise
   i) Gapping - done to maintain correct plant population.
   ii) Weeding - tomato field should be kept weed free.
   iii) Staking - for production of clean fruits.
   iv) Top dressing - should be top dressed with nitrogenous fertiliser.
   v) Pest control - field should be kept free of pests such as American bollworm
   vi) Diseases control - field should be kept free of diseases such as tomato blight.
   vii) Pruning
   6 x 1 = 6mks