KENYA NATIONAL EXAMINATION COUNCIL
REVISION MOCK EXAMS 2016
TOP NATIONAL SCHOOLS

PRECIOUS BLOOD RIRUTA
AGRICULTURE
PAPER 1
MARKING SCHEME

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PRECIOUS BLOOD KCSE TRIAL AND PRACTICE EXAM 2016

PAPER 1

MARKING SCHEME

1. Give two characteristics of plantation farming (1 mark)
   (1) Production of one type of crop
   (2) Require large tract of land
2. Name two chemical processes of weathering
   (1) Carbonation
   (2) Oxygenation
3. State two advantages of organic faming (1 mk)

   (1) Improves soul structure
   (2) Enhance soil water infiltration and retention
4. Outline three effects of soul organisms which benefit plant growth (1 mark)
   (1) Improves aeration
   (2) Release soil nutrients
5. Give two ways in which organic mulch help to conserve water in the soul (1 mark)
   (1) Reduce water loss through evaporation
   (2) Improve soil water infiltration and retention
6. Give two types of labour records
   (1) Labour utilization analysis
   (2) Muster roll
7, Outline four ways in which land consolidation helps to improve farm management (2 marks)
   (1) Proper supervision
   (2) Saves time and transportation cost
   (3) Facilitator soil conservation and farm mechanization
   (4) Legal ownership and title deed used to secure loans
8. List six factors that should be considered when grading a crop produce (3 marks)
   (1) Cleanliness
   (2) Freshness
   (3) Size
   (4) Degree of ripens
   (5) Right colour
   (6) Shape
9. State four importance raising tomato seedlings in a nursery bed (2mks)
   (1) Excess sold for income
   (2) Facilitates planting of small seeds
   (3) Production of many seedlings in sryall area
   (4) Management practices easily and timely carried out
   (5) Transplanting go of only healthy and vigorously growling
10. Give four ways of controlling weds in a field of maize
   (1) Uprooting
   (2) Cultivation
   (3) Use of herbicides
   (4) Slashing weds
11. State three reasons for top dressing pasture (1 ½ mks)
   (1) Increase herbage yields
   (2) Improve nutritive value of crop
   (3) Add soil nutrients

12. Give four reasons for training crops as a field practice (2 marks)
(1) Plants grow in a designed direction and shape
(2) Facilitates easy harvesting and spraying
(3) Clean fruits /produce
(4) Increase yield
(5) Support plants

13. State three activities the farmer carries out on a store before storing grains
(1) Cleaning the store/remove debris of previous crops
(2) Give high yields
(3) Higher germination percentage
(4) Pure/true to type

15(a) Outline two characteristics of nitrogenous fertilizers
(1) Highly soluble
(2) Easily leached
(4) Scorching /burning effects
(5) Highly relatile
(6) Hygroscopic

(b) Give the forms in which the following elements are available to plants (1 mk)
(i) Phosphorous: Phosphate ions (PO^{42})
(ii) Potassium: Potassium ions (K^{+})

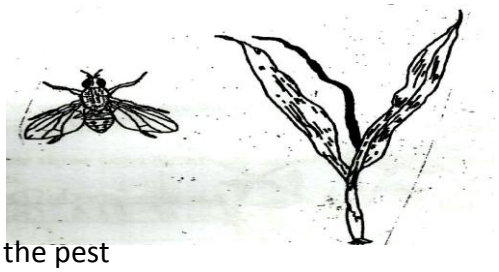
16. List three general symptoms of viral diseases in crops (1 ½ mks)
(1) Leaf chlorosis
(2) Leaf curling
(3) Mosaic
(4) Malformations/galls
(5) Resetting

17. Give four factors that influence the choice of tools and equipment used in Primary cultivation. (2 marks)
(1) Condition of he land
(2) Type of tilth required
(3) Depth of cultivation
(4) Availability /cost of the tool

18. State four factors that contribute to competitive ability of weds (2 mks)
(1) Produce large quantities of seeds
(2) Seeds remain viable for long
(3) Ability to propagate vegetative
(4) Seeds easily and successfully dispersed

SECTION B. (20 MKS)

19 (a) Diagram bellow shows an adult crop which in its larval stage causes the middle shoots of sorghum t wider as shown in the diagrams

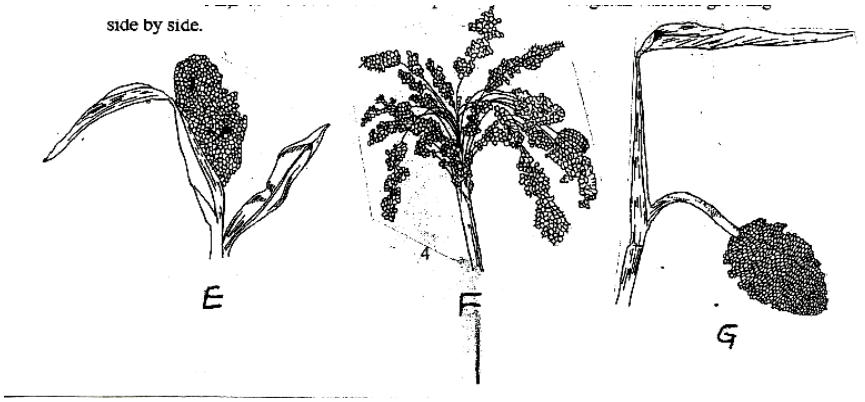


(i) Identify the pest (1/2 mks)
- Sorghum shoot fly

(ii) Give two ways of controlling the pest (2 mks)
(1) Use of insecticides

(2) Proper disposal of crops remain

(b) Diagrams EF and G blow shows the panicles of three sorghum varieties growing side by side



(ii) Which on of the three varieties of sorghum is last likely to be damaged by the birds (1/2 mk)

G;

(iii) Give a reason for you answer in (i)above (1 mk)

Goose necked;

(iv) State two methods that are used in controlling birds in a field of soghum (2 mks)

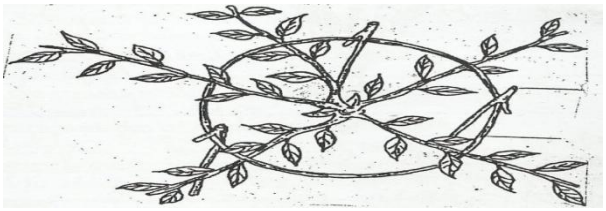
(1) Poison sprays in breeding colonies

(2) Use of flame throwers

(3) use of scarecrows;

(use of explosives

20. The diagram below shows a method of bringing tea into bearing. Use it to answer the questions that follow



(i) Identify the specific method shown in the diagram (1/2 mk)

Use f a ring and pegs

(ii) Describe the procedure of carrying out the above in a tea bush (4 mks)

(1) Ring 30cm in diameter of thin sticks/thick wire is placed on branches

(2) Raranchs gently forced to bend at 30^0-45^0

(3) Three pegs placed to hold ring in position

(4) Shoots are tipped off for more shoots

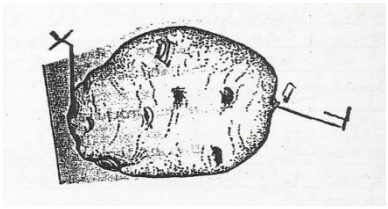
21. Use diagrams below to answer the questions that follow

(a) Identify each of the soil structures labeld K and L (1/2 mks)
K: Prismatic soil structure
L: Platy soil structure

(b) Give one place where the soil structure labled L can b fund
Top horizon in forest and clay soils

(c) State three ways in which farmer can improve the structure of water logged clay soil.
(1) Drainage
(2) Add liming materials

2. The diagram below illustrates a vegetative propagation method. Study it and answer the question that follow.



(a) Name the method used in preparing the above planting material (1/2 mk)
- Chitting/sporuting

(b) Name the crop propagated using the above method (1 mk)

- Irish potatoes

(c) Name the parts labelled X and Y (2 mks)
X Rose end
Y Heel – end

(d) State one environmental condition necessary for the success of the method named in (a) above. (1 mk)
- Diffused light

SECTION C. (40 MKS)

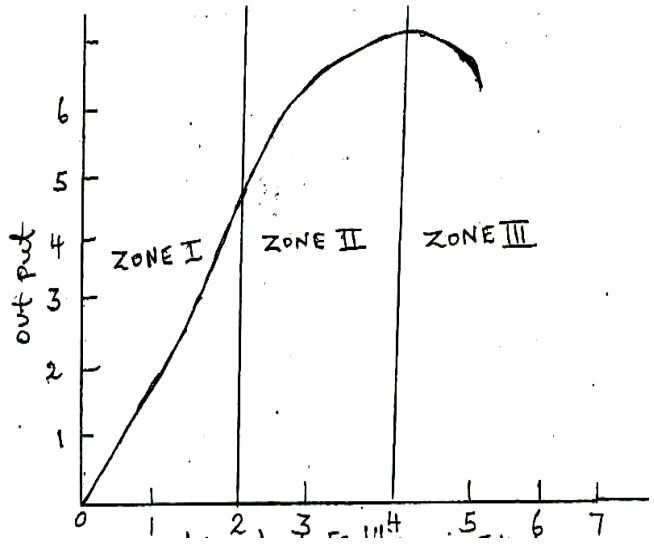
23. (a) Describe the production of Kales under the following sub headings: -
(i)Seedbed preparation (3 mks)
(1) Early preparation/Dry season/before onset of rains
(2) Plough/cultivate/dig
(3) Harrow to fine tilth
(4) Remove perennial weeds
(5) Dig holes 10cm deep
(6) Spacing 90x60cm/60x60cm
(ii) Transplanting
(1) Ready after 3-4 weeks/4-6 true leaves/15-25cm height

(2) Water nursery
(3) Lift healthy and vigorous growing seedlings with garden trowel
(4) Use phosphatic fertilizer/well rotten organic manure
(5) Plant at same depth in nursery
(6) Firm soil at base;
(7) Plant in late evening/during cloudy day

(iii) Field practices (4 mks)
(1) To dress with SA/CAN
(2) Weed control by hand
(3) Pest control
(4) Disease control

(b) Explain eight cultural control measures of diseases in crop production (8 mks)
(1) Use healthy planting materials
(2) Field hygiene/destroy micro-habitats/rogneing
(3) Proper spacing; control/damping off/Roseffe
(4) Proper seedbed preparation, e.g. armillaria root rot
(5) Heat treatment; e.g. ratoon hunting in sugarcane
(6) Proper drying of cereals before storage
(7) Use disease resistant varieties e.g. Ruiru II for CBD
(8) Pruning
(9) Weed control
(10) Close season
(11) Planting certified seeds

24 (a) Below is a graphical representation of the law of diminishing returns. Explain what happens in each of the zones marked I, II and III in relation to output. (3 mks)



Zone marked I: output /product increases at increasing rate; under utilization of resources

Zone marked II: Resources used maximally; TP/output increase at decreasing rate;

Zone marked III: T.P/output decline with additional input; resources used in excess/uneconomical production

(b) Which of the three is a rational zone of production? (1 mk)

- Zone II

(c) State any six precautions a potato farmer would take to minimize risks in the production of potatoes.

(1) Input rationing
(2) Insurance
(3) Flexibility in production methods
(4) Adopting modern methods of production
(5) Contracting
(6) Diversification

(d) Explain ten factors to consider when selecting a farm enterprise (10 mks)

(1) Period the enterprise will take to mature
(2) Availability of market for the produce
(3) Prevailing climate
(4) Size of land available
(5) Government policy
(6) Common pests and, diseases
(7) Availability of labour
(8) Availability of infrastructure
(9) Proper security
(10) Availability of capital/money
(11) Inputs
(12) Topography
(13) Sustainability
(14) Taste and preferences
(15) Land tenure system
(16) Social/cultural facts

25(a) Give six precautions observed in pruning mature tea (6 mks)

(1) Side branches should never be out to encourage spread of
(2) Avoid dish-shaped frame
(3) Prune parallel with slope of ground not horizontal
(4) Branches at across to minimise area of wound
(5) Pruning knife be sharp
(6) Small branches and twigs on frame be removed by hand
(7) Leave branches to rot to release nutrients/act as mulch

(b) Describe the procedure followed when collecting a soil sample form the field for testing in the laboratory (6 mks)

(1) Clear vegetation from sampling spot
(2) Make vertical act 1-25cm deep (crop land), 5cm pasture/at
(3) Take slice with spade/soil auger
(4) Put soil sample in clean polythene bag
(5) Repeat the 1-4 steps in 15-20 spots
(6) Mix sample thoroughly dry and crush
(7) Take sub-sample /composite sample to laboratory for testing

(c) Give four desirable characteristics of materials used in the preparation of compost manure (4 mks)

(1) Easily decomposed organic materials
(2) Pest and disease free
(3) Weed free
(4) Vegetative materials used should be young
(5) Rich in nutrients/nitrogen

(d) Outline four advantages of intercropping crops (4 mks)

(1) Helps to control soil erosion
(2) Good ground cover helps to smother weeds
(3) Maximum utilization of the land
(4) Add soil nutrients in case legumes are intercropped