KURIA WEST SUB-COUNTY JOINT EXAMINATION - 2014

Kenya Certificate of Secondary Education
AGRICULTURE
PAPER 1
TIME: 2 HOURS

INSTRUCTIONS TO CANDIDATES:
• Write your name and index number in the spaces provided above.
• Sign and write the date of examination in the spaces provided above.
• This paper consists of THREE Sections A, B and C.
• Answer all questions in Section A and B.
• Answer two questions in Section C in the spaces provided.

FOR EXAMINER’S USE ONLY

<table>
<thead>
<tr>
<th>Section</th>
<th>Question</th>
<th>Maximum Score</th>
<th>Candidate’s Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>1 - 21</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>B</td>
<td>22 - 26</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>C</td>
<td>27 - 29</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td></td>
<td>90</td>
<td></td>
</tr>
</tbody>
</table>
Agriculture Paper 1

SECTION A: (30 MARKS)

Answer ALL questions in this section in the spaces provided.

1. Name three forms of horticulture farming. (1½mks)

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

2. Name any two factors which influence soil colour. (1mk)

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

3. Give three reasons why Agricultural produce should be processed. (1½mks)

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

4. List two qualities that enable sorghum to be drought resistant. (1mk)

____________________________________________________________________________
____________________________________________________________________________

5. State three entries that are made in a journal. (1½mks)

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

6. List two features of plastic pipes a farmer should consider before buying. (1mk)

____________________________________________________________________________
7. State three reasons for top dressing pasture. (1½mks)

8. State three environmental conditions that may lead to low crop yields. (1½mks)

9. Give three indicators of well decomposed manure. (1½mks)

10. State three functions of plastic materials when used as mulch in crop production. (1½mks)

11. Differentiate between gross domestic product and per capita income. (2mks)
   (a) Gross domestic product. ______________________________________________________

12. Give two reasons why bush burning is discouraged during land preparation. (1mk)
13. State three causes of blossom end rot disease in tomato crop. (1½mks)

____________________________________________________________________________

____________________________________________________________________________

14. State three desirable characteristics of agroforestry trees a farmer would consider before planting in the farm. (1½mks)

____________________________________________________________________________

____________________________________________________________________________

Agriculture Paper 1

15. Name four items that a maize farmer can enter into his consumable inventory records. (2mks)

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

16. State any three aims of land settlement programmes in Kenya. (1½mks)

____________________________________________________________________________

____________________________________________________________________________

____________________________________________________________________________

17. List two ways in which soil of pH 3 can be raised to pH 6.5. (1mk)

____________________________________________________________________________

____________________________________________________________________________

18. Differentiate between hybrid and composite as used in crop breeding. (2mks)

(a) Hybrid. _________________________________________________________________

____________________________________________________________________________

(b) Composite _______________________________________________________________
19. State **two** possible causes of wilting in tomato plants despite adequate water supply. (1mk)

____________________________________________________________________________
____________________________________________________________________________

20. Name the form in which the following nutrients are absorbed by plants. (1½mks)

(i) Calcium _______________________________________________________________

(ii) Sulphur ______________________________________________________________

(iii) Molybdenum _________________________________________________________

21. List **three** farming practices done to reduce water stress in crop production. (1½mks)

____________________________________________________________________________
____________________________________________________________________________
____________________________________________________________________________

22. Below is a diagram of a Common East African Weed.

(i) Identify the weed illustrated above. (1mk)

(ii) Give **one** harmful effect of the weed illustrated above to livestock. (1mk)
(iii) State two methods of controlling the weed illustrated above. (2mks)

23. The diagram below shows a method of forage preservation.

Agriculture Paper 1

(i) Identify the structure illustrated above. (1mk)

(ii) State the form in which forage is conserved as illustrated above. (1mk)

(iii) Give the role of the following in the structure above. (2mks)

(a) Polythene sheet.

(b) Drainage

24. The illustration below represents a form of physical measures in conservation soil and water. Study it carefully and answer the questions that follow.
25. Study the diagram below carefully and answer the questions that follow.

(a) Identify the illustration above. (1 mk)

(b) Describe how the above physical measure conserves soil and water. (2 mks)

(c) Name two other physical measures that can be used to conserve water. (1 mk)
(a) Identify the field pest shown in the illustration A and B above. (2mks)

A -
B -

(b) State two effects the pest expressed in A above has on maize plant. (2mks)

____________________________________________________________________
____________________________________________________________________

26. A livestock farmer in Kirinyaga can rear dairy cattle, beef cattle or sheep. If the farmer undertakes each of the enterprises at a time, he is likely to get returns as follows:

Dairy cattle  Kshs.70,000
Beef cattle  Kshs.65,000
Sheep farming  Kshs.75,000

(a) From the information given which enterprise the farmer should choose? (1mk)

____________________________________________________________________

(b) Give a reason for your answer in (a) above. (1mk)

____________________________________________________________________

(c) What is the opportunity cost of undertaking the enterprise chosen in (a) above? (1mk)

____________________________________________________________________

(d) What is the importance of scarcity in agricultural production? (1mk)

____________________________________________________________________

Agriculture Paper 1

SECTION C: (40 MARKS)

Answer any two questions from this section in the spaces provided after question 29.

27. (a) The information below was extracted from the financial valuation of micro-farm at the end of the year 2007.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value in Ksh.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy cattle</td>
<td>55,000.00</td>
</tr>
</tbody>
</table>
Maize in store 19,000.00
Buildings 126,000.00
Calves 5,000.00
Seven mature sheep 7,000.00
Land 260,000.00
Machinery 4,000.00
Cattle feed in store 4,000.00
Office equipments 1,400.00
Tools in store 10,000.00

On the same date the farm had Ksh.50,000/- in the bank. KCC owed the farm 5,000/- for milk delivered, owed KFS 4,500/- for fertilizers, 5,000/- to Unga Limited for feeds delivered and labourers wages 12,000/-.  

(i) Draw up a balance sheet for the micro-farm as at 31st December 2007. (11mks)  

(b) Is the farm solvent or insolvent? (1mk)  

(ii) Describe the procedure of harvesting coffee. (4mks)  

(iii) A farmer is supposed to apply a compound fertilizer 20:30:10 on a plot measuring 5m long and 4m wide at the rate of 200kg/ha.  

(a) What do the figures 20:30 stand for? (2mks)  

(b) Calculate the amount of fertilizer the farmer will require per plot. Show your working. (2mks)  

28. (a) The table below shows the production of maize at various level of NPK fertilizer application. Study it carefully and answer the questions that follow.  

<table>
<thead>
<tr>
<th>Land size in ha</th>
<th>Variable input NPK in kg</th>
<th>Total product maize in 90kg bags</th>
<th>Marginal product maize in 90kg bags</th>
<th>Average product maize in 90kg bags</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>27</td>
<td>A</td>
<td>F</td>
</tr>
<tr>
<td>1</td>
<td>150</td>
<td>42</td>
<td>15</td>
<td>14</td>
</tr>
<tr>
<td>1</td>
<td>200</td>
<td>56</td>
<td>B</td>
<td>14</td>
</tr>
<tr>
<td>1</td>
<td>250</td>
<td>63</td>
<td>7</td>
<td>12.6</td>
</tr>
<tr>
<td>1</td>
<td>300</td>
<td>65</td>
<td>C</td>
<td>G</td>
</tr>
<tr>
<td>1</td>
<td>350</td>
<td>65</td>
<td>D</td>
<td>9.3</td>
</tr>
<tr>
<td>1</td>
<td>400</td>
<td>60</td>
<td>-5</td>
<td>7.5</td>
</tr>
<tr>
<td>1</td>
<td>450</td>
<td>52</td>
<td>E</td>
<td>H</td>
</tr>
<tr>
<td>1</td>
<td>500</td>
<td>42</td>
<td>-10</td>
<td>4.2</td>
</tr>
</tbody>
</table>

(i) Complete the above. (4mks)  

(ii) Using the graph paper provided draw a graph of total product, marginal product and average product against variable input on the same axis and mark the three zones of production. (7mks)
Agriculture Paper 1

9

(iii) With a reason identify the best zone of production. (2mks)

(b) Give two varieties of sorghum grown in Kenya. (2mks)

(c) Describe five effects of soil erosion. (5mks)

29. (a) Explain seven working principles of co-operative societies. (7mks)

(b) Describe the procedure of whip grafting in citrus propagation. (5mks)

(c) Describe four components of a well developed soil profile. (8mks)
ANSWERS:

Order a copy of answers from www.schoolsnetkenya.com/order-e-copy

NB> We charge Kshs. 100 ONLY to meet website, e-resource compilation and provision costs