3.16 AGRICULTURE (443)

3.16.1 Agriculture Paper 1 (443/1)

SECTION A (30 marks)

Answer all the questions in this section in the spaces provided.

1. Give four reasons for intercropping in crop production. (2 marks)

2. State four characteristics of extensive farming system. (2 marks)

3. State four minimum tillage practices. (2 marks)

4. Give four reasons why burning of land is discouraged. (2 marks)

5. State four functions of Young Farmers’ Clubs. (2 marks)

6. Distinguish between a perfect and an imperfect market. (1 mark)

7. State four reasons for practising intensive hedgerow agroforestry. (2 marks)

8. State four management practices in intensive hedgerow agroforestry. (2 marks)

9. State the meaning of each of the following terms as used in crop production:
   (a) crop rotation (1 mark)
   (b) pruning (1 mark)
   (c) rogueing. (1 mark)

10. State four factors that determine the depth of planting. (2 marks)

11. State four disadvantages of broadcasting seeds during planting. (2 marks)

12. State four characteristics of a good site for a nursery bed. (2 marks)

13. Name four types of market structures in agricultural marketing. (2 marks)

14. Name one crop that is propagated by each of the following:
   (a) stem tuber (½ mark)
   (b) split (½ mark)
   (c) slip (½ mark)
   (d) bulbil. (½ mark)

15. State four advantages of using certified seeds. (2 marks)
SECTION B (20 marks)

Answer all the questions in this section in the space provided.

16 The diagram below illustrates water storage structures.

(a) Identify the structure labelled E. (1 mark)

(b) Give two reasons why farmers prefer structure F to E. (2 marks)

(c) State two maintenance practices for the structure labelled F. (2 marks)

17 A farmer has a piece of land on which he can grow maize, cabbages and beans. The expected yields and selling prices of the three crops are shown below.

<table>
<thead>
<tr>
<th>Crop</th>
<th>Yield (kg)</th>
<th>Spelling prices (Ksh/kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maize</td>
<td>4000</td>
<td>40</td>
</tr>
<tr>
<td>Cabbages</td>
<td>2800</td>
<td>60</td>
</tr>
<tr>
<td>Beans</td>
<td>3000</td>
<td>80</td>
</tr>
</tbody>
</table>

If the cost of producing any of the three crops is the same

(a) Which crop should the farmer grow? Show your working. (2 marks)

(b) (i) State the farmer’s opportunity cost. (1 mark)

(ii) Give a reason for your answer in (b) (i) above. (1 mark)

(c) Give a reason why farmers always have to make a choice on the enterprise to implement on the farm. (1 mark)
The following is a list of plant nutrients:

Copper, calcium, nitrogen, molybdenum, zinc, phosphorous, carbon, sulphur, iron and magnesium.

(a) Which **one** of the above plant nutrients is mainly known for

(i) promoting root development  
(ii) preventing blossom end rot disease  
(iii) Strengthening plant stalks to prevent lodging. 

(b) Name **two** forms in which nitrogen is absorbed from the soil by plants.

A farmer is advised to apply 60 kg N, 20 kg $P_2O_5$ and 30 kg $K_2O$ per hectare. Calculate the quantity of urea (46% N), single super phosphate (20% $P_2O_5$) and muriate of potash (50% $K_2O$) the farmer should apply on his 10 hectares land.

**SECTION C (40 marks)**

*Answer any two questions from this section in the spaces provided after question 22.*

20  
(a) Describe **eight** methods used in water harvesting.  
(b) Describe **nine** ways in which biotic factors influence agricultural production.  
(c) Describe the preparation of green manure.

21  
(a) Describe **seven** harmful effects of crop pests.  
(b) Describe **eight** safety measures a farmer should observe when using herbicides to control weeds.  
(c) Describe the harvesting of coffee.

22  
(a) Give **five** reasons why early defoliation is discouraged in pasture utilisation.  
(b) Describe **five** field management practices for onions.  
(c) State **five** disadvantages of communal land tenure system.  
(d) State **five** characteristics of variable inputs.