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 the questions in section A, B and any two questions from section C.
• All answers must be written in the spaces provided in this booklet.

FOR EXAMINER’S USE ONLY

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<thead>
<tr>
<th>Section</th>
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<th>Maximum score</th>
<th>Candidate’s score</th>
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<td>B</td>
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<td>20</td>
<td></td>
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<tr>
<td>C</td>
<td></td>
<td>20</td>
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<td></td>
<td><strong>Total score</strong></td>
<td><strong>20</strong></td>
<td></td>
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This paper consists of 12 printed pages.
Candidates should check the questions to ensure that all pages are printed as indicated and no question(s) are missing.
SECTION A: (30 MARKS)

Answer ALL questions in this section in the spaces provided.

1. Give any two farming methods. (1mk)

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_______________________________________________________________________
_______________________________________________________________________

2. List any three ecological factors that affect crop production in Kenya. (1\frac{1}{2} mks)

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_______________________________________________________________________
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3. Name two examples of straight fertilisers. (1mk)

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_______________________________________________________________________
_______________________________________________________________________

4. State the difference between liquid capital and working capital in agriculture production. (1mk)

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5. Give four factors that influence crop rotation. (2mks)

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_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
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6. State four advantages of sub-surface irrigation. (2mks)

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_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
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7. State three deficiency symptoms of sulphur in crops. (1\frac{1}{2} mks)

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_______________________________________________________________________
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_______________________________________________________________________
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Agriculture paper 1

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8. State **two** reasons that make a farmer fail to get profit from his/her enterprise. (1mk)

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_______________________________________________________________________

_______________________________________________________________________

9. Mention any **three** types of farm records that a farmer should keep. (1½ mks)

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

10. Name **three** agricultural activities that can be used to increase light intensity in crops. (1½ mks)

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_______________________________________________________________________

_______________________________________________________________________

11. Give **two** factors that determine the quality of hay. (1mk)

_______________________________________________________________________

_______________________________________________________________________

12. Outline **four** methods of improving drainage in waterlogged soils. (2mks)

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

13. Give the scientific term for the following:-
   a) Study of crop diseases (1mk)

   ___________________________________________________________________

   b) Study of plants and animal breeding. (1mk)

   ___________________________________________________________________

14. State **four** ways of preparing planting materials before planting. (2mks)

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________

_______________________________________________________________________
15. Mention four factors that influence the rate of soil erosion. 

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_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

16. List four insect pests that attack maize in the field. 

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

17. Identify two precautions to be taken when harvesting pyrethrum. 

_______________________________________________________________________
_______________________________________________________________________

18. Name four pieces of information that may be found in a delivery note. 

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_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________

19. Distinguish between topping and re-seeding as used in pasture crops. 

_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
_______________________________________________________________________
20. Below is a land preparation operation. Study it and answer the questions that follow.

a) Identify the operation. (1mk)

b) Name the parts Q and R. (1mk)

Q

R

c) Name one crop that can be planted in part labelled R. (1mk)

d) What is the advantage of planting the crop named in (c) above in the part labelled R. (1mk)

e) Identify one hand tool that can be used to carry out the operation. (1mk)

21. The diagram below illustrates materials and a method of vegetative propagation. Study it and answer the questions that follow.

The diagram includes a glass container and developing roots.
a) Identify the method of crop propagation illustrated above. (1mk)

b) Give two advantages associated with the method named in (a) above. (2mks)

c) State two characteristics of certified seeds. (2mks)

22. Below is an illustration of a tomato fruit that is attacked by a certain disease. Study it carefully and answer the questions that follow.

![Infected area]

a) Name the disease. (1mk)

b) State two possible causes of the disease named in (a) above. (2mks)

c) Name one other tomato disease and its control measure. (2mks)

Disease

Control measure
23. The diagram below illustrates some common weeds. Study it carefully and answer the questions that follow.

(a) Identify the weeds labelled;
Y
_______________________________________________________________________
_______________________________________________________________________
Z
_______________________________________________________________________
_______________________________________________________________________

(b) State one economic importance of weed Y and Z named in (a) above.
Y
_______________________________________________________________________
_______________________________________________________________________
Z
_______________________________________________________________________
_______________________________________________________________________

(c) Mention one factor that make weed X effectively competitive.
_______________________________________________________________________
_______________________________________________________________________
SECTION C (40 MARKS)

Answer any two questions in the spaces provided in this booklet.

24. a) Briefly explain six advantages of farm yard manure (FYM) over straight fertilisers. (6mks)
    b) Describe the procedure of soil sampling. (10mks)
    c) Discuss any two methods of training crops. (4mks)

25. a) Explain any eight functions of agriculture marketing. (16mks)
    b) Explain four disadvantages of communal land tenure system. (4mks)

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

<table>
<thead>
<tr>
<th>Fixed factor</th>
<th>Variable inputs</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>land (1ha)</td>
<td>NPK in kg</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>50</td>
<td>10</td>
<td>0</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>e</td>
<td>7.5</td>
</tr>
<tr>
<td>1</td>
<td>450</td>
<td>52</td>
<td>f</td>
<td>w</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 table above. (4mks)

(ii) Using the graph paper provided, draw a curve of total product, marginal product and average product against variable input on the same axis. (7mks)

(iii) Mark the zones of production in the graph. (3mks)

(iv) Of zones marked in questions (iii) above, which one should the farmer operate in? (2mks)

b) Explain four characteristics of trees/shrubs suitable for Agro-forestry. (4mks)