Instructions to candidates

1. Write your name and index number in the spaces provided above.
2. Sign and write the date of examination in the spaces above.
3. This paper consists of three sections A B and C.
4. Answer all the questions in section A and B and any two questions in section C.

FOR EXAMINERS USE ONLY

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This paper consists of 13 printed pages. Candidates should check the question paper to ensure that all pages are printed as indicated and no questions are missing.
SECTION A (30 MKS)

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

1. a) What is organic farming? ( ½ mk)
   …………………………………………………………………………………………………………………………………………………………
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   b) List any four climatic factors that influence crop production. (2mks)
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   c) State four conditions under which shifting cultivation is practicable. (2mks)
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2. a) Give four ways the government can regulate the amount of imported agricultural goods. (2mks)
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   b) State two ways in which hard pans are caused by cultivation. (2mks)
   …………………………………………………………………………………………………………………………………………………………
   ……………………………………………………………………………………………………………………………………………………………
3. Outline four factors that determine the number of times secondary cultivation is done. (2mks)

4. Give four farming practices that farmers can use to achieve minimum tillage. (2mks)

5. Give a reason in each case for carrying out the following management practices in a vegetable nursery.
   i) Pricking out (½ mk)
   ii) Rogueing. (½ mk)
6. List three practices that can be carried out to increase the amount of light harnessed by crops. 

(1 ½ mks)

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7. a) What is hardening off as used in crop production. 

(1mk)

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b) State two ways in which the above practices can be carried out. 

(1mk)

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8. Calculate the amount of K2O that is contained in 400kg of a compound fertilizer 25:10:5 (show your calculation) 

(1mk)

9. Outline four characteristics of plants that are used in preparation of green manures. (2mks)

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10. A farmer has a piece of land measuring 90m by 60m to plant seeds selected at the rate of one seed per hole and a spacing of 90cm by 30cm. Calculate the plant population in the whole field if all the seeds germinated. (show your working) (2mks)

11. a) Give two forms of collective land tenure system in Kenya. (1mk)

b) Outline four advantages of land consolidation in agricultural production. (2mks)

12. a) State four factors of production in Agriculture. (2mks)
b) Give four types of farm record that a maize farmer would keep. (2mks)

13. a) List two methods of layering that are use in propagation of plants. (1mk)

b) Give two ways in which check dams control soil erosion. (1mk)
SECTION B (20 MARKS)

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

14. The diagrams below are illustrated of some weeds. Study them and answer the questions that follow.

a) Identify the weeds.
   L .................................................................................................................. (½ mk)
   M .................................................................................................................. (½ mk)

b) On the basis of plant morphology classify the weed labeled L. (1mk)
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c) Give two harmful effects of the weed labeled M. (2mks)
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15. Below are two types of soil structures P and Q.

a) Identify the types of soil structures
P …………………………………………………………………………………………………………………….. (½ mk)
Q …………………………………………………………………………………………………………………….. (½ mk)

b) State where the above soil structures are likely to be found. (1mk)

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c) Outline three main ways by which soil structure influence crop production. (3mks)

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16. The diagram below gives an illustration of a type of irrigation. Study it and use it to answer questions that follow.

a) Identify the irrigation method shown above. (1mk)
b) State two main advantages of this type of irrigation. 

(2mks)

c) Outline two main reasons why the above type of irrigation is not popular among most farmers. 

(2mks)

17. The illustration below shows a certain field practices carried in crop production. Study them and answer questions that follow.
b) Give one importance of each of the practices shown above. (1mk)

C..................................................................................................................................................................................
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D .................................................................................................................................................................................. (1mk)
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C i) State the appropriate material labeled S on illustration C. (1mk)
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iii) Give two examples of crops where field practice C is carried out. (1mk)
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SECTION C (40 MARKS)

Answer any two questions from this section in the spaces provided after question 20.

18. Describe the production of bulb onions under the following subheadings.
   i) Varieties. (1mk)
   ii) Land preparation (2mks)
   iii) Field management practices (8mks)
   iv) Outline the steps followed in silage making. (9mks)

19. a) State and explain briefly five ways through which soil loses its fertility. (10 mks)
   b) Give five main characteristics of nitrogenous fertilizers (5mks)
   c) Outline five methods that are used in application of inorganic fertilizer. (5mks)

20. a) Describe five general uses of water in the farm. (5mks)
   b) Explain four methods that are used in breaking dormancy in seeds. (8mks)
   c) Outline various cultural methods of controlling crop pests. (7mks)