

FORM 3

443/1 AGRICULTURE

PAPER 1

TIME: 2 HOURS

SECTION A (30MARKS)

Answer ALL the questions in the spaces provided

1. Give **four** biotic factors which influence Agriculture positively. (2 marks)

2. State **two** farming practices which enhance organic farming. (1 mark)

3. Which chemical are used during water treatment to; (1½ marks)

- i) Coagulate solid particles _____
ii) Soften the water _____
iii) Kill pathogens _____

4. Give **two** reasons that makes phosphatic fertilizers good for use during planting time. (1 mark)

5. List down **four** qualities of a good farm record. (2 marks)

6. What do you understand by the following terms? (1½ marks)

- i) Seed dressing _____

- ii) Seed inoculation _____

iii) Chitting

State three problems associated with land fragmentation in Kenya? (1½ marks)

7. Outline **four** land Reforms Programmes which have been carried out in Kenya since independence. (2 marks)

8. List down **four** common methods of harvesting water. (2 marks)

9. Give three methods of breaking seed dormancy. (1½ marks)

10. What do you understand by the following terms as used in pests classification according to mode of action. (2 marks)

i) Stomach poisons

ii) Systemic poisons

iii) Contact poisons

iv) Suffocants

12. Give **two** reasons why farmers are encouraged to practice organic farming. (1 mark)

13. State **three** advantages of shifting cultivation. (1½ marks)

14. List **four** methods of farming. (2 marks)

15. Outline **three** effects of soil organisms which benefit crop growth. (1½ marks)

16. State **two** harmful effects of strong wind on crop production. (1 mark)

17. State **three** advantages of adding organic matter to sandy soil. (1½ marks)

18. State **three** ways by which biological agents can enhance the process of soil formation. (1½ marks)

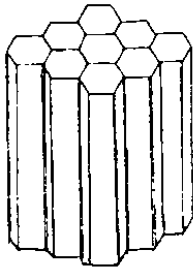
19. Outline **four** main reasons for secondary tillage. (2 marks)

SECTION B (20 MARKS)

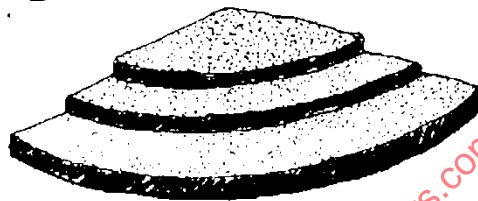
Answer ALL the questions in the spaces provides

20. Below are two types of soil structures A and B.

A



B



a) Identify the two- types of soil structures. (2 marks)

A _____

B _____

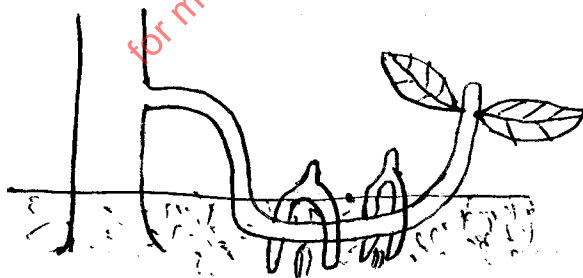
b) State where the above soil structures are likely to be found. (1 mark)

c) Outline ways which soil structure influences crop production. (3 marks)

21 a) Study the diagram below and answer the questions that follow.

i) What is layering? (1 mark)

ii) Identify the type of layering shown below. (1 mark)

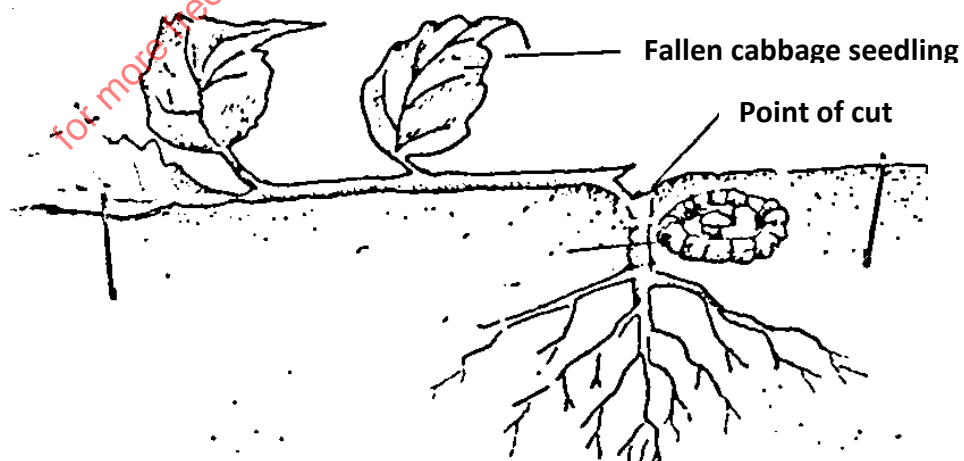


b) Give **two** advantages of tissue culture in crop production. (2 marks)

22a) Maize requires 120kg/ha of phosphorus pentoxide (P_2O_5). How much of the compound fertilizer 20:20:10 would be applied to 0.4 hectare of land to achieve this rate. (show your working). (3 marks)

b) Distinguish between straight fertilizers and compound fertilizers. (2 marks)

23. The diagram below shows a cabbage seedling which has been attacked by a certain pest.



a) Identify the pest (1 mark)

b) State **three** methods of controlling the above pest (3 marks)

SECTION C (40MARKS)

Answer any TWO questions in this section in the spaces provided after question 25

- 24.a) Outline the factors affecting rooting of cuttings. (5 marks)
- b) State and explain human factors that influence Agricultural production. (10 marks)
- c) Highlight the management practices carried out in a nursery. (5 marks)
- 25.a) State and explain **five** ways through which soil loses its fertility. (10 marks)
- b) Describe **five** characteristics of Nitrogenous fertilizers. (5 marks)
- c) Outline **five** methods used in application of inorganic fertilizers. (5 marks)
- 26.a) Explain **seven** cultural methods of controlling crop diseases. (7 marks)
- b) Describe precautions taken during the harvesting of coffee. (4 marks)
- c) Given that a crop of cabbage is planted at a spacing of 60cm × 60cm, calculate the plant population in a plot of land measuring 4m × 3m. (show your working). (4 marks)
- d) Give **five** factors that determine spacing of cabbages in the field. (5 marks)

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