**Name:…………………………………………… Index No. …………………..**

**School:………………………………………….. Candidate’s Sign……………**

 **Date:………………………..**

**443/1**

**AGRICULTURE**

**PAPER 1**

**(THEORY)**

**2 HOURS**

**FORM 4**

**INSTRUCTIONS TO CANDIDATES**

* *Write your* ***name*** *and* ***index number*** *in the spaces provided above*
* *Sign and write the date of the examination in the spaces provided above*
* *This paper consists of three sections* ***A, B*** *and* ***C***
* *Answer* ***ALL*** *the questions in section* ***A*** *and* ***B***
* *Answer* ***ANY two*** *questions in section* ***C***
* *Answers should be written in the spaces provided in this booklet*

***For Examiner’s Use Only:***

|  |  |  |  |
| --- | --- | --- | --- |
| **SECTION** | **QUESTIONS** | **MAXIMUM SCORE** | **CANDIDATES SCORE** |
| A | 1-19 | 30 |  |
| B | 20-23 | 20 |  |
| C |  | 20 |  |
|  | 20 |  |
|  | **TOTAL** | **90** |  |

**SECTION A (30 MARKS)**

***Answer ALL the questions in this section in the spaces provided.***

1. Define organic farming (1mk)

2. List THREE soil constituents (1 ½ mk)

3. Give FOUR benefits of crop rotation (1mk)

4. State TWO disadvantages of using hydram pumps in pumping water in the farm

(1mk)

5. List FOUR benefits of land consolidation in farming (2mks)

6. Name a crop weed that is:

 (i) Parasitic to maize crop (1/2 mk)

 (ii) Alternate host for rusts (1/2 mk)

 (iii) Aquatic (1/2 mk)

 (iv) Has medicinal value (1/2 mk)

7. State THREE ways in which nitrogen is lost from the soil (1½ mks)

8. State FOUR benefits of mulching in soil and water conservation (2mks)

9. Give FOUR disadvantages of using organic manures in crop production (2mks)

10. (i) Define opportunity cost (1mk)

 (ii) Name Two types of inventory records kept by farmers (1mk)

11. (a) Give TWO importance of sub-soiling (1mk)

12. Give THREE ways in which nutrients can be lost from silage in a silo (1½ mk)

13. (i) Give TWO destructive effects of moles in crop production (1mk)

 (ii) Apart from moles, name TWO other rodent pests (1mk)

14. Give THREE characteristics of fixed inputs (1½ mks)

15. List FOUR financial documents kept by farmers (2mks)

16. State FOUR field pests that attach maize (2mks)

17. Differentiate between apiculture and aquaculture as used in Agriculture (1mk)

18. State TWO ways in which burning leads to loss of soil fertility (1mk)

19. State TWO benefits of hardening off seedlings before transplanting (1mk)

**SECTION B (20 MARKS)**

***Answer ALL the questions in this section in the spaces provided.***

20. The photograph below shows a farming practice. Study it and answer the questions that follow.

 Diagr

1. Name the practice (1mk)
2. Name one crop to which the practice is applicable (1mk)
3. Give TWO benefits of the practice above (2mks)

21. Study the farm record below and use it to answer the questions that follow.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Date | Amount Sold | Price per unit (Kshs.) | Total value (Kshs) | Where sold | Remarks |
| 19/5/2015 | 120kg | 30 | 3,600 | Professional Agrovet  | Fair Price |
| 20/5/2015 | 150kg | 32 | - | Nunguni Agrovet | To supply more |

1. Name the type of farm record above (1mk)
2. On the record fill the missing values (1mk)
3. Give a farm statement that heavily depends on information extracted from the farm record named above (1mk)

22. The diagram below illustrates a crop pest

 Diag…

1. Identify the pest (1mk)
2. Give TWO reasons why the above pest is difficult to control (2mks)
3. Give a reason why indiscriminate use of pesticide on the farm may cause increased crop damage by the above pest (1mk)

23. The diagram below shows a method of planting used to establish a certain variety of crop

 30cm Planted crops

● ● ● ● ● ● ● ● ●

 60cm

● ● ● ● ● ● ● ● ●

● ● ● ● ● ● ● ● ●

● ● ● ● ● ● ● ● ●

1. Identify the method of planting used (1mk)
2. Give the interplant spacing followed above (1mk)
3. Give THREE advantages of the above method of panting (3mks)
4. The spacing above was used to establish a crop on an area of land measuring 6m by 3m. Calculate the crop population. Show your working (4mks)

**SECTION C (40 MARKS)**

***Answer ANY TWO questions from this section in the spaces provided.***

24. (a) Explain challenges faced by Kenyan vegetable farmers in the production of

crops (10mks)

 (b) Discuss various safety precautions observed when using herbicides (5mks)

 (c) Describe the benefits of minimum tillage in crop production (5mks)

25. (a) Outline various ways in which land fragmentation increases the cost of food

production in Kenya (5mks)

 (b) Describe the importances of top dressing in pasture establishment (5mks)

 (c) Explain FIVE factors that influence soil erosion (10mks)

26. (a) Describe the importance of any FIVE nursery management practices in crop

production (10mks)

 (b) State the functions of farm manager in agricultural production (10mks)