**NAME…………………………………………………………..INDEX NO………………………………**

**SCHOOL……………………………………….ADM. NO……………………CLASS………………….**

**AGRICULTURE**

**443/1**

**FORM 4**

**DECEMBER 2021**

**TIME 2Hrs.**

**KCSE KENYA CERTIFICATE OF SECONDARY EXAMINATION**

**INSTRUCTIONS TO CANDIDATES**

1. **Write your Name, Index No., School, Admission No. and Class in the spaces provided.**
2. **Write the date of the examination in the spaces provided.**
3. **This paper contains three sections A, B and C.**
4. **Answer all the questions in section A and B and any two questions in section C.**
5. **All answers should be written in the spaces provided in English**
6. **Students should check the question paper to ascertain that all 6the pages are printed as indicated and that no questions are missing.**
7. **For examiners’ use only.**

|  |  |  |  |
| --- | --- | --- | --- |
| **section** | **questions** | **Maximum score** | **Students’ score** |
| A | 1-16 | 30 |  |
| B | 17-20 | 20 |  |
| C | 21 | 20 |  |
|  | 22 | 20 |  |
|  | 23 | 20 |  |
| TOTAL SCORE | | 90 |  |

**This paper contains 14 printed pages**

**Section A- 30 Marks; Answer all the questions in this section in the spaces provided**

1 .Outline **four** activities that enable agriculture to be classified as a science (2mk)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

2. State **four** characteristic of a good site for a nursery bed (2 mks)

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3. Give **four** reasons for intercropping (2 mks)

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

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

5. State **four** advantages of using certified seeds (2 mks)

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6. List **four** characteristics of extensive farming system (2mk)

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7. State **four** positive effects of wind in crop production (2mk)

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8. State **four** benefits of adding organic manure to an acidic soil (2mk)

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9. State **four** factors that determine the stage at which a crop is harvested. (2mk)

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10. State f**our** advantages of applying lime as a measure of improving soil condition ( 2 mks)

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11. State four factors that influence the number of secondary cultivation in seedbed preparation ( 2 mks)

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12 State **four** negative effects of burning as a method of bush clearing (2mk)

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13. State **four** disadvantages of minimum tillage (2mk)

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14. State **four** factors that increase seed rate in crop production (2mk)

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15. State **two** conditions when opportunity cost exists (1mk)

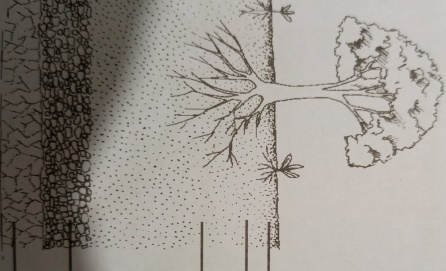
……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

16 Differentiate between **nitrogen fixation and phosphorus fixation** as used in agriculture ( 2mk)

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**SECTION B-20 MARKS; Answer all questions in this section.**

17. Study the diagram below carefully and answer the questions that follow.



A

D

C

B

Name the layers labelled A, B, C and D (2 marks)

A-………………………………………………………………………………………………………

B-……………………………………………………………………………………………………..

C-……………………………………………………………………………………………………..

D-…………………………………………………………………………………………………….

State four significance of layer labelled A (2 marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………….

State how layer B can be improved for better crop production. (1 marks)

………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

18. The diagrams below illustrate common weeds found in cultivated crop fields.

Study them carefully and answer the questions that follow.



H

G

J

I

F

i)Name the weeds labelled F, G and H (1 ½ marks)

F- ………………………………………………………………………………………………………

G-………………………………………………………………………………………………………

H-……………………………………………………………………………………………………...

1. State one reason that makes weed F difficult to control (1 mark) ………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………
2. State the one economic importance of each of the weeds (1 ½ marks)

G-………………………………………………………………………………………………………………………………………………………………………………………………………………

H-………………………………………………………………………………………………………………………………………………………………………………………………………………

J-………………………………………………………………………………………………………

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State two cultural methods for controlling weed I (1 mark)

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19. The diagrams below show two types of irrigation please insert type

A B

1. Name the type of irrigation illustrated (2mks)

A……………………………………………………………………………………………………B……………………………………………………………………………………………………

1. State two conditions that promote the use of the type of irrigation illustrated in A

(2mks)

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1. List two disadvantages of using method A of irrigation over method B (2mks)

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1. Name two other types of irrigation other than those shown above (2mk)

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20. The proprietors of Mareira farm made the following transactions in the year 2020;

Purchase of feeds-2000,Purchase of seeds-1000,Purchase 0f fertilizers -1300,Fuel-1500,Disc plough100, 000,Sale of cabbages-35000,Sale of wheat-40000,Sale of milk-10000,Opening valuation was 120000,Closing valuation was 160000 andDebt receivable of 6000 for firewood delivered to a neighbouring farm.

Using the above information, prepare a profit and loss account for the farm for the year ending December 2020.

Did the farm make a profit or a loss (1 Mark)

………………………………………………………………………………………………………………………………………………………………………………………………………………

**SECTION C -40 Marks; Answer any Two Questions in this Section**

**21.** (a) State **five** disadvantages of communal land tenure system answer (5 mks)

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(b) State and explain **five** methods of drainage in agricultural land (10mks)

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(c) Explain **five** factors considered in a crop rotation program (5mks)

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22. (a) State and explain **five** Importance of agriculture in Kenyan economy (10mks)

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(b) Describe the agronomic production of tomatoes under the following subheadings;

i) Transplanting of tomato seedlings. (10mks)

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ii) Field management practices (5 marks)

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iii) Describe **five** ways in which biotic factors influence agricultural production (5mks)

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23. a)State **five** importance of budgeting in a farming enterprise (5 marks)

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b) State **five** ways through which farmers adjust to risks and uncertainties (5 marks)

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c) State **five** ways in which labour productivity can be improved in the farm (5 marks)

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d)State **five** importance of a title deed to a farmer (5 marks)

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END