***Name………………………………………………………….Index No…………………………Class….……..AdmNo……………***

*443/1*

**AGRICULTURE**

Paper 1

January 2021

2 hours

**KASSU EXAMINATION**

**Kenya Certificate of Secondary Education**

AGRICULTURE

**Paper 1**

2 hours

**Instructions to candidates**

*Write your name and index number in the spaces provided above.*

*This paper consists of* ***three*** *sections* ***A,B*** *and* ***C****.*

*Answer* ***ALL*** *questions in Sections* ***A*** *and* ***B*** *and any* ***TWO*** *questions from section.* ***ALL*** *answers must be written in the spaces provided after every question.*

*The paper consists of 10 printed pages. Check to ascertain that all pages are printed.*

*Do not remove any pages from this booklet.*

**For Examiners’ use only**

|  |  |  |  |
| --- | --- | --- | --- |
| **Section** | **Questions** | **Maximum Score** | **Candidate’s Score** |
| A | 1 -18 | 30 |  |
| B | 19-22 | 20 |  |
| C |  | 20 |  |
|  |  | 20 |  |
| Total score | 90 |  |

**SECTION A(30 Marks)**

***Answer all questions in this section in the spaces provide.***

1. (a) Give two characteristics of intensive farming system. (1mk)

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

 (b) State two advantages of mixed farming. (1mk)

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

2 State two forms in which water is available in the soil. (1mk)

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

3 Give three agents of physical weathering. (1 ½ mks)

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

4 Give two ways in which mulch control the soil erosion. (1mk)

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

5 State four advantages of drip irrigation. (2mks)

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

6 Give two benefits of adding organic manure to sandy soil. (1mk)

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

7 Give four advantages of using grafting as a method of improving avocado fruits. (2mks)

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

8 Give four reasons for using certified seeds for planting. (2mks)

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

9 List three methods used to control weeds in pastures. (1 ½ mks)

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

10 State two reasons for conserving forage crops. (1mk)

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

11 Name two types of labour records kept in the farm. (1mk)

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

12 State four causes of land fragmentation. (2mks)

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

13 Outline four roles of trees in soil and water. (2mks)

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

14 Give two reasons for earthing up tobacco crop. (1mk)

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

15 List three examples of working capital employed by a farmer in the production of maize.(1 ½ mks)

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

16 State three ways in which labour productivity can be improved. (1 ½ mks)

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

17 (a) Give two reasons why nitrogenous fertilizers are suitable for top- dressing. (1mk)

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

 (b) Outline four deficiency symptoms of sulphur in crops. (2mks)

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

18 State four symptoms of maize stalk borer infestation in maize. (2mks)

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

 **SECTION B (20 Marks)**

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

19 Study the illustration below and answer questions that follow.

 

1. Identify the weed. (1mk)

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

1. Give two harmful effects of the weed illustrated above. (2mks)

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

1. State two reasons why tillage is sometimes preferred as a method of weed control.

 (2mks)

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

20 (a) Given that a maize crop is planted at a spacing of 75cm x 25cm, calculate the plant population in one hectare of land if two seeds are planted per hole.( Show your working). (3mks)

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

 (b) Give two reasons for having the correct plant population in the production of annual crops.

 (2mks)

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

21 Study the illustration below and answer questions that follow.

 

1. Identify the structure above. (1mk)

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

1. Name the parts labelled A,B,C and D above. (2mks)

A…………………………………………………………………………………………………………………………………….

B…………………………………………………………………………………………………………………………………….

C……………………………………………………………………………………………………………………………………

D……………………………………………………………………………………………………………………………………

1. Give four ways in which the above illustration influences crop distribution. (2mks)

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

22 (a) Below is a diagram showing a crop infected by a disease. Study it and answer questions that follow.

 

1. Identify the disease. (1mk)

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

1. Name the category in which the disease is classified. (1mk)

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

1. Give three control measures of the disease illustrated above. (3mks)

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

**SECTION C (40 Marks)**

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

23(a) Describe the field production of maize under the following sub-headings.

1. Seedbed preparation. (3mks)

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

1. Planting (5mks)

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

 (b) State and explain six marketing functions. (12mks)

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

24 (a)(I) Explain the precautions taken during the harvesting of pyrethrum. (3mks)

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

 (ii) Outline five factors that affect the rooting of cuttings. (5mks)

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

 (b) The following is a Demand and Supply schedule of eggs to teachers in a school.

|  |  |  |
| --- | --- | --- |
| **Price per 30 kg crate (Ksh)** | **Demand per day (No of crates)** | **Supply per day (No. of crates)** |
| 330.00 | 5 | 47 |
| 310.00 | 11 | 46 |
| 290.00 | 15 | 44 |
| 270.00 | 19 | 42 |
| 255.00 | 24 |  39.5 |
| 240.00 | 29 |  36.5 |
| 225.00 | 33 | 33 |
| 210.00 | 37 | 29 |
| 200.00 | 43 | 27 |
| 190.00 | 49 | 20 |

1. Using the same axis with price on the vertical axis, illustrate the demand and supply schedule curves for eggs. (6mks)
2. Determine the equilibrium price. (1mk)

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

1. What would be the price if 45 trays were supplied? (1mk)

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

1. Apart from price, outline four other factors that influence the demand of eggs in a market? (4mks)

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

25 (a) State and explain six ways in which soil lose fertility. (12mks)

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

 (b) Outline eight factors considered in farm planning. (8mks)

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