

Nameindex
number.....

443/1

AGRICULTURE

PAPER 1

Candidate's

Signature.....

Nov/Dec 2020

Date.....

Kenya Certificate of Secondary Education

AGRICULTURE

PAPER 1

2 Hours

Instructions to Candidates

- i. Write your name and index number in the spaces provided above.
- ii. Sign and write the date of examination in the spaces provided above
- iii. This paper consists of three sections A, B and C
- iv. Answer **all** the questions in section A and B
- v. Answer any **two** questions from section C
- vi. All answers should be written in the spaces provided.
- vii. This paper consists of 10 printed pages
- viii. Candidates should check the question to ascertain that all questions are printed as indicated and no questions are missing.

FOR EXAMINER'S USE ONLY

| Section | Question | Maximum | Candidate's score |
|---------|----------|---------|-------------------|
| A | 1-15 | 30 | |
| B | 16-20 | 20 | |

| | | | |
|---|--------------------|-----------|--|
| C | | 20 | |
| | | 20 | |
| | TOTAL SCORE | 90 | |

SECTION A (30MARKS)
Answer All questions in this section.

1. State **four** disadvantages of monocropping in crop production (2 marks)

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2. Give **four** soil factors that influence soil productivity (2marks)

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3. State **two** benefits of optimum soil temperature in crop production (1mark)

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4. State **four** reasons for deep ploughing during land preparation (2marks)

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5. (a) State **three** factors to be considered before deciding on an irrigation in crop production (1½ marks)

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(b) List **three** surface water sources found in a farm (1½ marks)
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6. List **four** types of a financial books a farmer should keep (2marks)

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7. (a) What is increasing returns in production (1mark)

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(b) What are **three** classification of farm credits according to the repayment periods (1¹/₂ marks)

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8. Name **one** physiological disease in tomatoes (1/2 mark)

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9. (a) State **two** criteria in which weeds can be classified (1mark)

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(b) State **four** factors that contribute to competitive ability of weed? (2marks)

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10. Give the reasons of carrying out the following (1mark)

i. Pricking out

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ii. Seed inoculation

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11. (i) Outline the ideal characteristics of green manure crop (1½mark)

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(ii) What is the function of top soil in the preparation of compost manure) (½ mark)

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12. Give **two** ways in which cover crop help to conserve water in the soil (1mark)

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13. Name **two** ways in which land consolidation helps to improve farm management . (1mark)

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14. (a) Explain the difference between fixed and variable costs in farming (1mark)

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(b) Give **four** variable costs in production of coffee in an established field of coffee (2marks)

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15. (a) Calculate the amount of K_2O contained in 400kg of compound fertilizer 25:10:5(2marks)

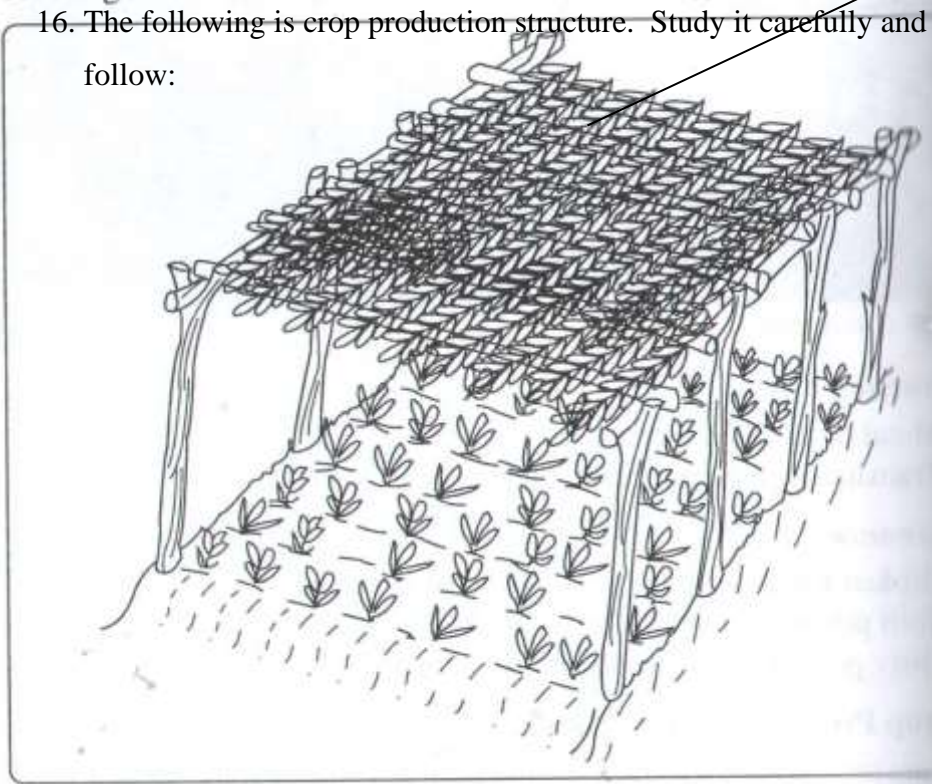
(b) State **four** importance of irrigation in farming (2marks)

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SECTION B (20MARKS)

Answer all questions in the spaces provided

16. The following is crop production structure. Study it carefully and answer the questions that follow:



A

a. (i) Identify the structure (1mark)

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b. Explain how practices which are carried out when the seedlings are being prepared for transplanting is done. (2marks)

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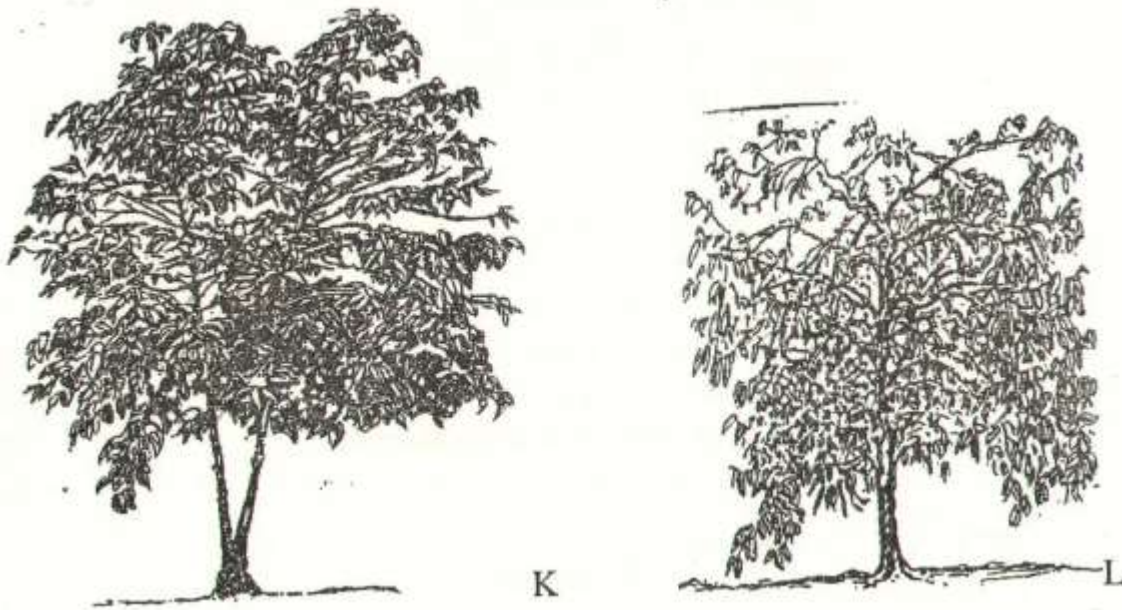
(ii) What is the recommended height of the crop structure (½ mark)

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(iii) What is the purpose of the part labeled A? (2marks)

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17. Below are diagram K and L showing coffee plants established using two different formative pruning systems. Study them and answer the questions that follow:-



(a) Name the systems of pruning illustrated in the diagram labeled K and L (2marks)

K.....

L.....

(b) Describe the procedure of carrying out the system labeled K. (3marks)

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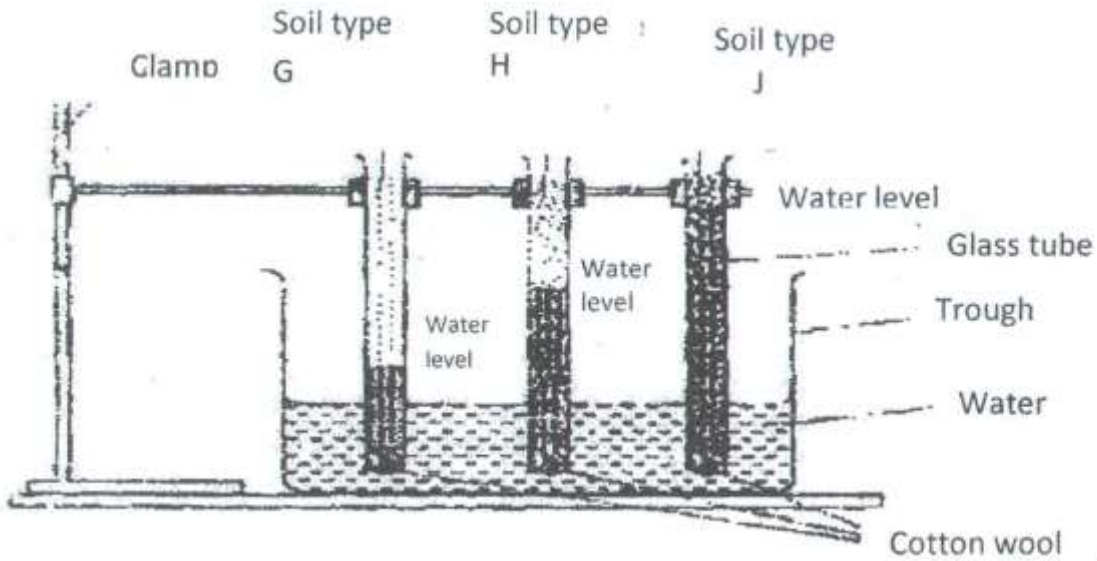
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18. The following is a farm record for Mrs. Kamau had kept as at 30th June 2014. Study it carefully and answer the questions that follow:-

| | Ksh. |
|-----------------|--------|
| Cash in hand | 20,000 |
| Cash at bank | 66,000 |
| Buildings | 50,000 |
| Disc ploughs | 16,000 |
| Debtors | 16,000 |
| Working tools | 12,000 |
| Bank over draft | 24,000 |
| Creditors | 20,000 |
| Loan | 50,000 |
| Cattle | 40,000 |
| Land | 80,000 |

Prepare balance sheet from the above information for Mrs. Kamau's farm. (5marks)

19. The diagram below shows an experiment set up using soil types G, H and J and observation made after 24hours. Study the diagrams and answer the questions that follow:-



- (i) What is the experiment above designed to study? (1mark)
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- (ii) Name the three soil types G, H and J (1½marks)
G.....
H.....
J.....
- (iii) What is the characteristic feature of soil types G and J (1mark)
G.....
J.....
- (iv) State how a farmer would improve the structure of soil type G (1mark)
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SECTION C (40 MARKS)

Answer any two questions in this section

20. (a) On 5th January 2016 Biashara farm purchased the following items on credit from a KFA shop.
- 20 bags of dairy meal, 70kg each @ sh. 1100 per bag , 16bags of bran, 70kg each @sh. 700 per bag, 18 bags of DSP fertilizer, 50kg @ sh. 1,500 per bag 45 bags of maize seeds each 2kg @ sh. 300 per bag, 8 shearing knives (small sized @ sh. 300 per knife.
- (i) Prepare a purchase order that Biashara farm made to KFA (6marks)
- (ii) Calculate the value of each item purchased and the total value of the order (3marks)
- (b) Explain how various practices carried in the field help to control crop diseases. (8marks)
- (c) Explain three advantages of budgeting in a farm business (3marks)
21. (a) Explain eight factors that can encourage soil erosion (8marks)
- (b) Explain the ways farmers use to overcome risk and uncertainties in farming business (7marks)
- (c) Describe harvesting of tea (5marks)
22. (a) The tables below gives information on supply and demand schedules for tomatoes in a local market

Table 1 prices and quantities of tomatoes supplied

| <u>Tomatoes (kg)</u> | <u>price per kg (Ksh.)</u> |
|-----------------------------|-----------------------------------|
| 150 | 16.00 |
| 130 | 14.20 |
| 125 | 13.80 |
| 112 | 13.00 |
| 106 | 12.70 |
| 85 | 11.80 |
| 50 | 10.60 |
| 42 | 10.40 |
| 30 | 10.20 |
| 25 | 10.10 |

Table 2: prices and quantities of tomatoes demanded

| Tomatoes (kg) | Prices per Kg (Ksh) |
|----------------------|----------------------------|
| 80 | 18.00 |
| 87 | 16.70 |
| 101 | 15.50 |
| 119 | 14.10 |
| 135 | 13.20 |
| 155 | 12.40 |
| 171 | 11.80 |
| 185 | 11.30 |
| 191 | 11.10 |
| 205 | 10.80 |

- (i) Using the above data, plot supply and demand curves on the same axes. (8marks)
- (ii) Determine the price at which 120kg of tomatoes were supplied on the market. (1mark)
- (iii) How many kilograms of tomatoes were bought at a market price of Ksh. 13.00 (1mark)
- (iv) What was the equilibrium price for tomatoes on the market (1mark)

- (b) Explain five advantages of mulching in crop production (5marks)

- (c) Outline activities that may be undertaken in organic farming (4marks)

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