Name ………………………………………………………………………………………index 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**	

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

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    (b) List **three** surface water sources found in a farm   ($1^1/_2$ 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

$(1^{1}/_{2}$ 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   ($1^{1}/_{2}$ mark)

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   (ii) What is the function of top soil in the preparation of compost manure)   ($^{1}/_{2}$ 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)

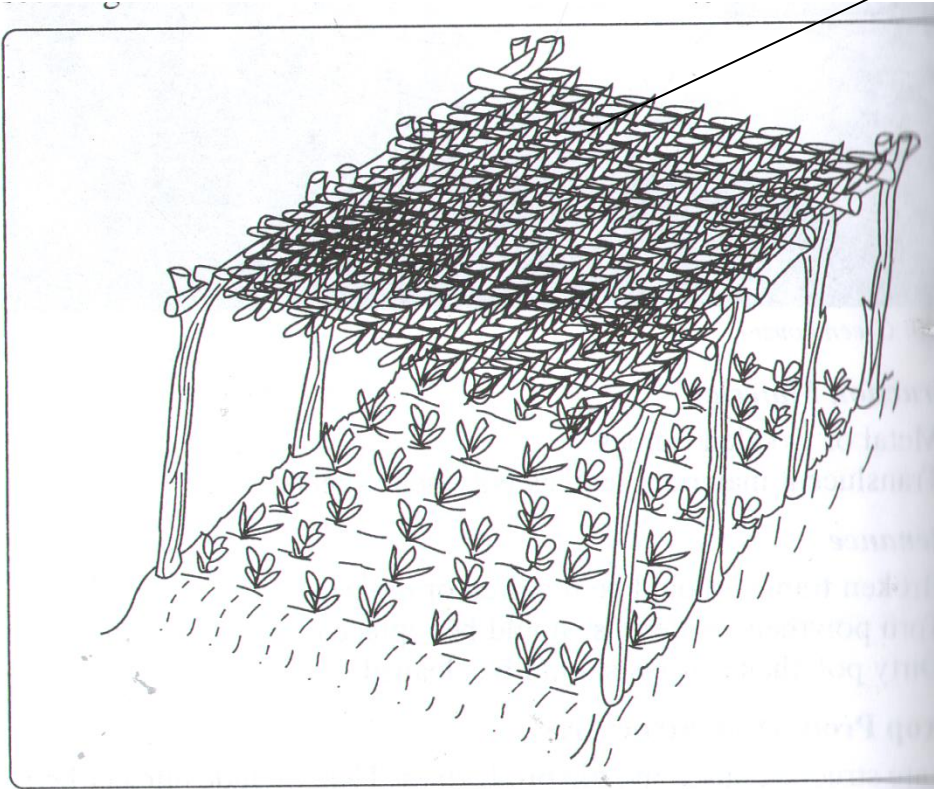(b) State **four** importance of irrigation in farming   (2marks)

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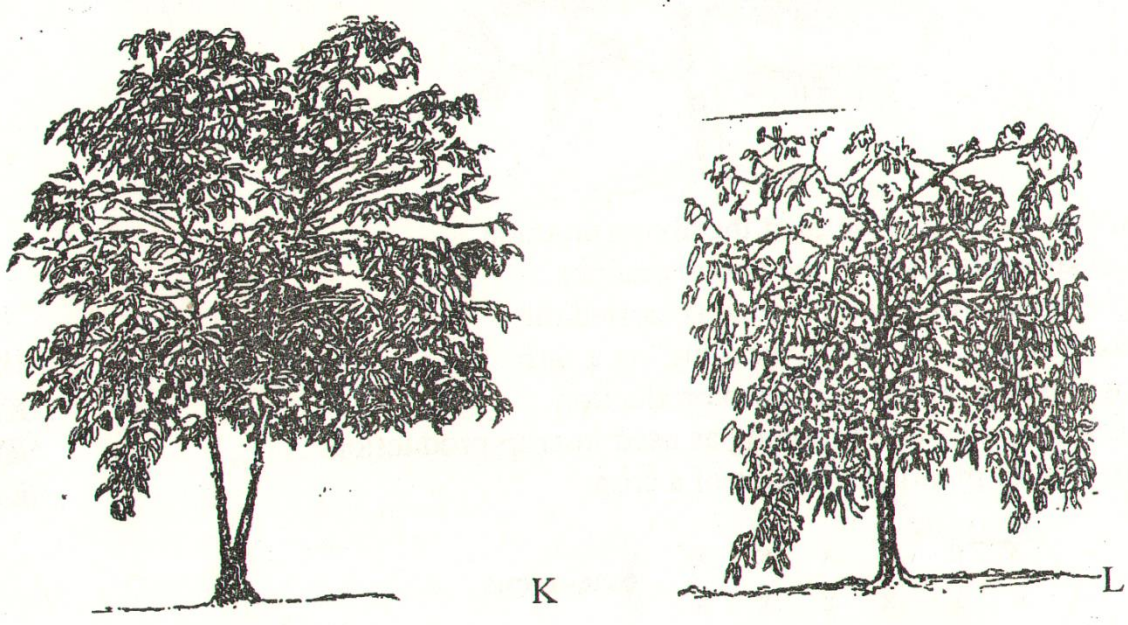
(a) Name the systems of pruning illustrated in the diagram labeled K and L   (2marks)

K…………………………………………………………………………………………………

L…………………………………………………………………………………………………

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

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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:-
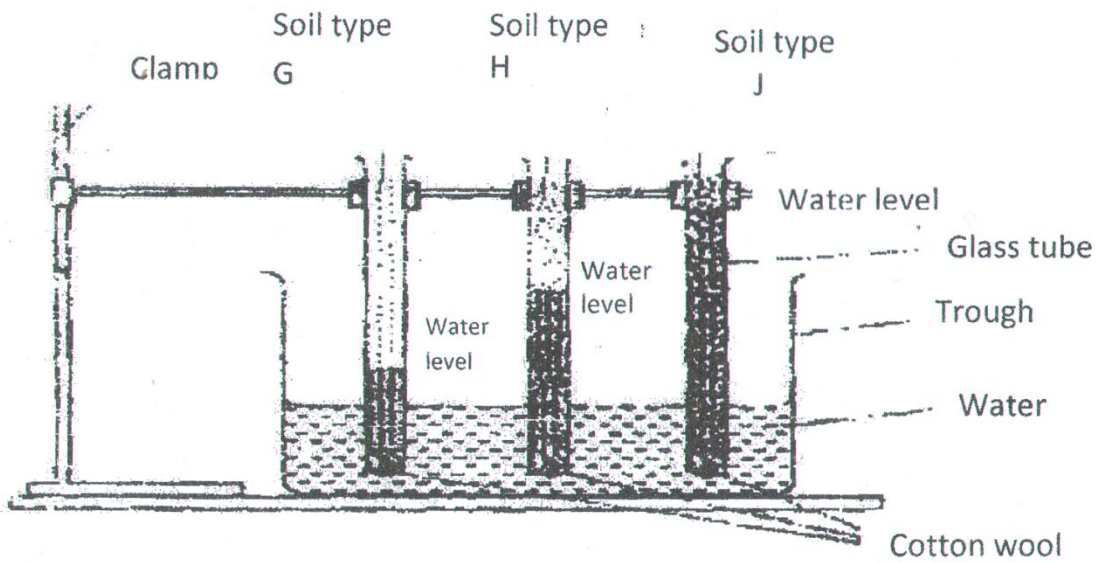
(i)   What is the experiment above designed to study?   (1mark)

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(ii)   Name the three soil types G, H and J $(1^1/_2$marks)

    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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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. 11oo 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

Tomatoes (kg)	**price per kg (Ksh.)**
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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