

NAME..... INDEX NO.....

SCHOOL..... CANDIDATE'S SIGNATURE.....

DATE.....

443/1  
AGRICULTURE  
PAPER 1  
JULY/AUGUST 2014  
TIME: 2 HOURS

## KURIA WEST SUB-COUNTY JOINT EXAMINATION - 2014

Kenya Certificate of Secondary Education  
AGRICULTURE  
PAPER 1  
TIME: 2 HOURS

### INSTRUCTIONS TO CANDIDATES:

- Write your name and index number in the spaces provided above.
- Sign and write the date of examination in the spaces provided above.
- This paper consists of **THREE** Sections **A**, **B** and **C**.
- Answer all questions in Section **A** and **B**.
- Answer two questions in Section **C** in the spaces provided.

### FOR EXAMINER'S USE ONLY

Section	Question	Maximum Score	Candidate's Score
A	1 - 21	30	
B	22 - 26	20	
C	27 - 29	20	
		20	
Total Score		90	

**SECTION A: (30 MARKS)**

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

1. Name **three** forms of horticulture farming. (1½mks)

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2. Name any **two** factors which influence soil colour. (1mk)

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3. Give **three** reasons why Agricultural produce should be processed. (1½mks)

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4. List **two** qualities that enable sorghum to be drought resistant. (1mk)

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5. State **three** entries that are made in a journal. (1½mks)

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6. List **two** features of plastic pipes a farmer should consider before buying. (1mk)

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7. State **three** reasons for top dressing pasture. (1½mks)

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8. State **three** environmental conditions that may lead to low crop yields. (1½mks)

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9. Give **three** indicators of well decomposed manure. (1½mks)

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10. State **three** functions of plastic materials when used as mulch in crop production. (1½mks)

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11. Differentiate between gross domestic product and per capita income. (2mks)

(a) Gross domestic product. \_\_\_\_\_  
\_\_\_\_\_

(b) Per capita income. \_\_\_\_\_  
\_\_\_\_\_

12. Give **two** reasons why bush burning is discouraged during land preparation. (1mk)

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13. State **three** causes of blossom end rot disease in tomato crop. (1½mks)

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14. State **three** desirable characteristics of agroforestry trees a farmer would consider before planting in the farm. (1½mks)

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15. Name **four** items that a maize farmer can enter into his consumable inventory records. (2mks)

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16. State any **three** aims of land settlement programmes in Kenya. (1½mks)

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17. List **two** ways in which soil of P<sup>H</sup>3 can be raised to P<sup>H</sup> 6.5. (1mk)

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18. Differentiate between hybrid and composite as used in crop breeding. (2mks)

- (a) Hybrid. \_\_\_\_\_  
\_\_\_\_\_
- (b) Composite \_\_\_\_\_  
\_\_\_\_\_

19. State **two** possible causes of wilting in tomato plants despite adequate water supply. (1mk)

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20. Name the form in which the following nutrients are absorbed by plants. (1½mks)

- (i) Calcium \_\_\_\_\_
- (ii) Sulphur \_\_\_\_\_
- (iii) Molybdenum \_\_\_\_\_

21. List **three** farming practices done to reduce water stress in crop production. (1½mks)

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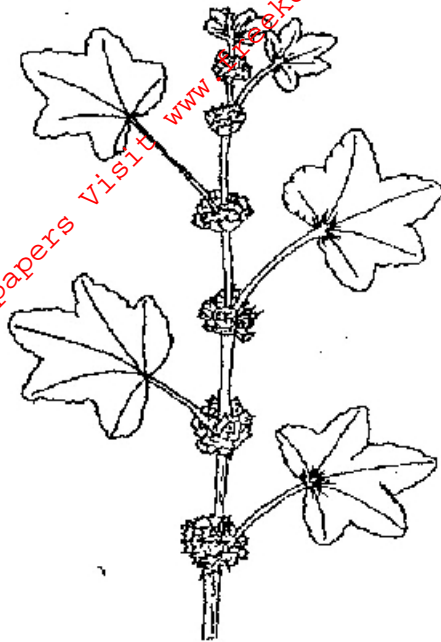
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**SECTION B: (20 MARKS)**

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

22. **Below** is a diagram of a Common East African Weed.



(i) Identify the weed illustrated above. (1mk)

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(ii) Give **one** harmful effect of the weed illustrated above to livestock. (1mk)

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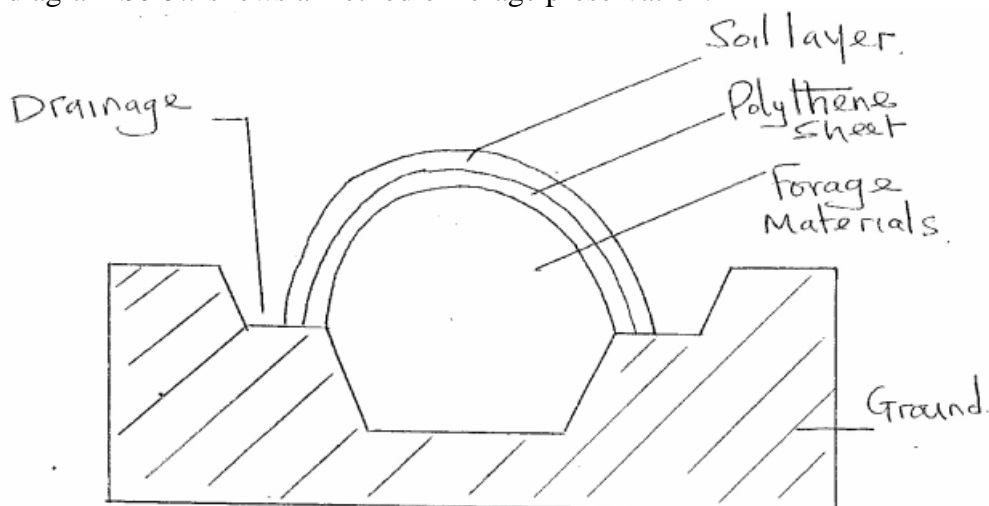
(iii) State **two** methods of controlling the weed illustrated above. (2mks)

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23. The diagram **below** shows a method of forage preservation.



(i) Identify the structure illustrated above. (1mk)

(ii) State the form in which forage is conserved as illustrated above. (1mk)

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(iii) Give the role of the following in the structure above. (2mks)

(a) Polythene sheet

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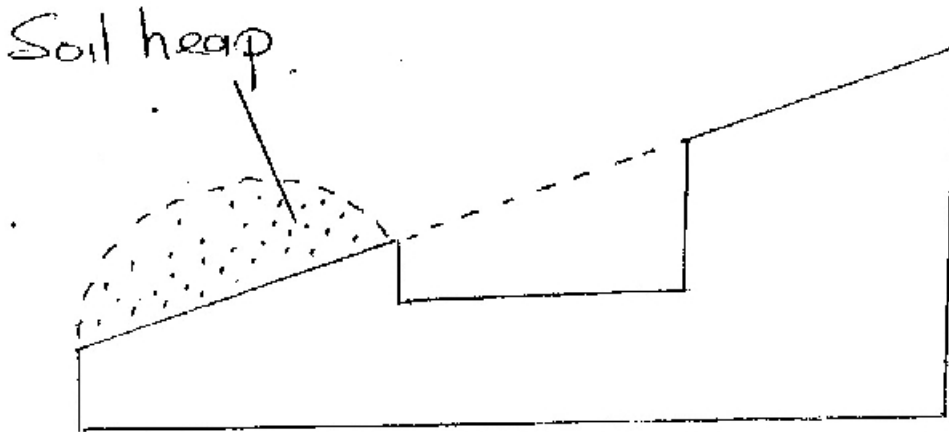
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(b) Drainage

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24. The illustration **below** represents a form of physical measures in conservation soil and water. Study it carefully and answer the questions that follow.



(a) Identify the illustration above. (1mk)

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(b) Describe how the above physical measure conserves soil and water. (2mks)

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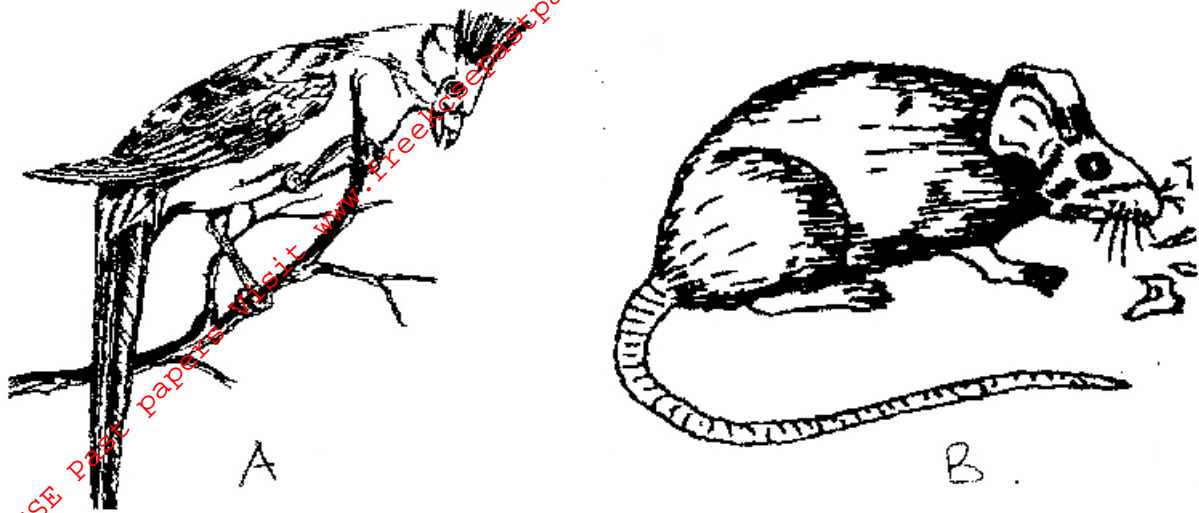
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(c) Name **two** other physical measures that can be used to conserve water. (1mk)

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25. Study the diagram **below** carefully and answer the questions that follow.



(a) Identify the field pest shown in the illustration **A** and **B** above. (2mks)

**A** - \_\_\_\_\_

**B** - \_\_\_\_\_

(b) State **two** effect the pest expressed in **A** above has on maize plant. (2mks)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

26. A livestock farmer in Kirinyaga can rear dairy cattle, beef cattle or sheep. If the farmer undertakes each of the enterprises at a time, he is likely to get returns as follows:

Dairy cattle	Kshs.70,000
Beef cattle	Kshs.65,000
Sheep farming	Kshs.75,000

(a) From the information given which enterprise the farmer should choose? (1mk)

\_\_\_\_\_

(b) Give a reason for your answer in (a) above. (1mk)

\_\_\_\_\_  
\_\_\_\_\_

(c) What is the opportunity cost of undertaking the enterprise chosen in (a) above? (1mk)

\_\_\_\_\_

(d) What is the importance of scarcity in agricultural production? (1mk)

\_\_\_\_\_  
\_\_\_\_\_

**SECTION C: (40 MARKS)**

Answer any **two** questions from this section in the spaces provided after question **29**.

27. (a) The information below was extracted from the financial valuation of micro-farm at the end of the year 2007.

Item	Value in Ksh.
Dairy cattle	55,000.00
Maize in store	19,000.00
Buildings	126,000.00
Calves	5,000.00
Seven mature sheep	7,000.00
Land	260,000.00
Machinery	4,000.00
Cattle feed in store	4,000.00
Office equipments	1,400.00
Tools in store	10,000.00

On the same date the farm had Ksh.50,000/- in the bank. KCC owed the farm 5,000/- for milk delivered, owed KFS 4,500/- for fertilizers, 5,000/- to Unga Limited for feeds delivered and labourers wages 12,000/-.

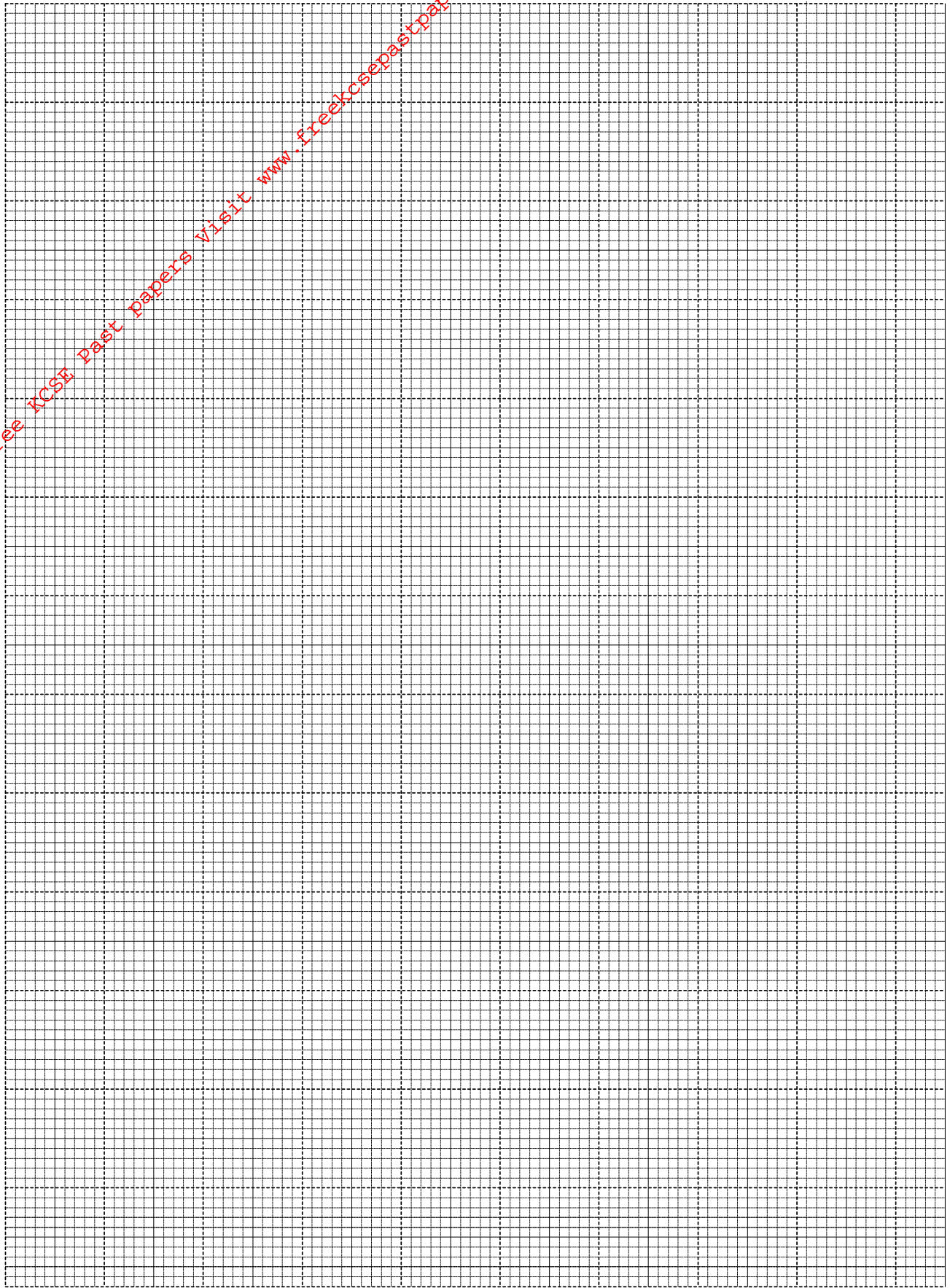
- (i) Draw up a balance sheet for the micro-farm as at 31<sup>st</sup> December 2007. (11mks)
- (b) Is the farm solvent or insolvent? (1mk)
- (ii) Describe the procedure of harvesting coffee. (4mks)
- (iii) A farmer is supposed to apply a compound fertilizer 20:30:10 on a plot measuring 5m long and 4m wide at the rate of 200kg/ha.
- (a) What do the figures 20:30 stand for? (2mks)
- (b) Calculate the amount of fertilizer the farmer will require per plot. Show your working. (2mks)
28. (a) The table **below** shows the production of maize at various level of NPK fertilizer application. Study it carefully and answer the questions that follow.

Land size in ha	Variable input NPK in kg	Total product maize in 90kg bags	Marginal product maize in 90kg bags	Average product maize in 90kg bags
1	50	10	10	10
1	100	27	A	F
1	150	42	15	14
1	200	56	B	14
1	250	63	7	12.6
1	300	65	C	G
1	350	65	D	9.3
1	400	60	-5	7.5
1	450	52	E	H
1	500	42	-10	4.2

- (i) Complete the above. (4mks)
- (ii) Using the graph paper provided draw a graph of total product, marginal product and average product against variable input on the same axis and mark the three zones of production. (7mks)



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(iii) With a reason identify the best zone of production. (2mks)

(b) Give **two** varieties of sorghum grown in Kenya. (2mks)

(c) Describe **five** effects of soil erosion. (5mks)

29. (a) Explain **seven** working principles of co-operative societies. (7mks)

(b) Describe the procedure of whip grafting in citrus propagation. (5mks)

(c) Describe **four** components of a well developed soil profile. (8mks)

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