MARAKWET WEST DISTRICT
443/1
AGRICULTURE
Paper 1
July/August - 2015
Time: 2 Hours

SECTION A: 30 MARKS
Answer all questions in this section in the spaces provided.

1. State Four properties of soil that are influenced by its texture. (2mks)
2. State Two factors that would influence the time of planting beans. (1mk)
3. Name Two means of applying water to crops by overhead irrigation. (1mk)
4. Give Five farming practices that could be used to improve soil structure. (2 ½ mks)
5. State Two ways in which pruning helps to control diseases in tomatoes. (1mk)
6. State Two ways in which inorganic mulch helps to conserve water in the soil. (1mk)

7. State Four benefits of minimum tillage in crop production. (2mks)
8. State Four ways of improving labour productivity in a farm. (2mks)
9. State Two factors that influence wind erosion. (1mk)
10. State Three practices that could be carried out to maximize the use of nitrogen fertilizer in a maize crop. (1 ½ mks)
11. Name Two chemical processes of weathering. (1mk)
12. Give Two chemical properties used to classify soil. (1mk)
13. Outline Four advantages of individual owner operator tenure system. (2mks)
14. List Four factors that should be considered when grading a crop produce. (2mks)
15. State Four importance of raising cabbage seedlings in a nursery bed. (2mks)
16. Give Four desirable characteristics of certified seeds. (2mks)
17. Outline Two characteristics of phosphatic fertilizers. (1mk)
18. Give Four factors that influence the choice of tools and equipment used in primary cultivation. (2mks)
19. List Four general symptoms of viral diseases in crops. (2mks)
SECTION B (20 MARKS)

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

20. The inventory for millennium farm as of 1st June 2010 was as follows;

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash at hand</td>
<td>Kshs.5,000</td>
</tr>
<tr>
<td>Layers</td>
<td>Kshs.30,000</td>
</tr>
<tr>
<td>Dairy cattle</td>
<td>Kshs.120,000</td>
</tr>
<tr>
<td>Beans in store</td>
<td>Kshs.7,000</td>
</tr>
<tr>
<td>Calves</td>
<td>Kshs.15,000</td>
</tr>
<tr>
<td>Building</td>
<td>Kshs.75,000</td>
</tr>
<tr>
<td>Machinery</td>
<td>Kshs.95,000</td>
</tr>
<tr>
<td>Land</td>
<td>Kshs.200,000</td>
</tr>
</tbody>
</table>

On the same day the following information was obtained from the farmers records.

<table>
<thead>
<tr>
<th>Item</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank Loan</td>
<td>Kshs.213,000</td>
</tr>
<tr>
<td>Egg sales on credit</td>
<td>Kshs.10,000</td>
</tr>
<tr>
<td>Milk sales on credit</td>
<td>Kshs.13,000</td>
</tr>
<tr>
<td>Vegetable sales on credit</td>
<td>Kshs.5,000</td>
</tr>
<tr>
<td>Farm inputs purchase on credit</td>
<td>Kshs.19,800</td>
</tr>
<tr>
<td>Wages payable</td>
<td>Kshs.5,600</td>
</tr>
<tr>
<td>Taxes payable</td>
<td>Kshs.750</td>
</tr>
<tr>
<td>Cash in Bank</td>
<td>Kshs.20,000</td>
</tr>
<tr>
<td>Interest payable</td>
<td>Kshs.2,000</td>
</tr>
</tbody>
</table>

Prepare a balance sheet for the farm (5mks)

21. Study the following diagrams of soil sampling and answer the following question.

A)

- Identify the sampling methods labeled
  A………………………………………………………
  B………………………………………………………

B)
b) Describe the procedure followed during soil sampling. (3mks)

22. Diagrams B, C and D below shows the panicles of three sorghum varieties growing side by side.

![Diagrams B, C, and D showing three sorghum varieties]

i) Which of the three varieties of sorghum is least likely to be damaged by the birds? (½ mk)

ii) Give a reason for your answer in (i) above. (½ mk)

iii) State two methods that are used in controlling birds in a field of sorghum. (2mks)

23. Study the weeds illustrated below and answer the questions that follow.

![Weeds A, B, C, and D]

a) Identify the weeds shown. (2mks)

A………………………………………………………………

B………………………………………………………………
C………………………………………………………………
D………………………………………………………………

b) Give one economic importance of each of the weeds A and B. (2mks)
   A…………………………………………………………………………………………….
   B…………………………………………………………………………………………….

c) State the advantage of weed C on the farm. (1mk)
d) Why is weed D difficult to control. (1mk)

24. The illustrations below represents types of soil structures. Study them carefully and answer the questions that follow.

   ![Soil Structures X and Y](image)

   a) i) Identify the soil structures X and Y shown above. (1mk)
   ii) Which of the soil structure you have named above is not suitable for growing maize. (½ mk)
   iii) Give one method of improving the soil structure you have mentioned in (ii) above. (½ mk)

SECTION C (40 MARKS)
Answer any two questions from this section in the spaces provided after each question.

25. a) Describe the establishment of grass pasture from the time the land is ploughed Using a moulboard or Disc plough to the time the pasture is ready for grazing. (11mks)
   b) What are the advantages of mixed grass legume pasture over a pure grass pasture? (9mks)

26. a) Describe ways in which cultural measures control crop diseases. (8mks)
   b) Explain the problems of marketing Agricultural produce. (8mks)
   c) State how grass cover conserves soil (4mks)
27. a) Explain ways in which the farmer can deal with risks and uncertainties. (8mks)

b) Explain **Six** factors considered when spacing crops. (12mks)
SECTION A: 30 MARKS

Answer all questions in this section in the spaces provided.

1. State Four safety precautions that should be observed in working with workshop tools. (2mks)
2. Apart from high butterfat content, give Two other good qualities of jersey breed over Fresian breed. (1mk)

3. State Four factors that influence rate of respiration in farm animals. (2mks)
4. Give Two feeding characteristics of goats which make them less vulnerable to internal parasites. (1mk)

5. Give Four reasons of feeding livestock on a balanced diet. (2mks)
6. Differentiate between crutching and ringing in livestock management. (2mks)
7. Give Three reasons that will make a farmer give milk to kids using artificial methods. (1 ½ mks)
8. State Two reasons for spreading a Damp proof course (DPC) on foundation during construction of farm buildings. (1mk)

9. Give Two signs that indicate a cow has died of anthrax disease. (1mk)
10. Give Two factors a farmer would consider when sourcing day-old chicks. (1 ½ mks)
11. State Four pre-milking practices in a dairy herd. (2mks)
12. Name Three methods of harnessing tractor power. (1 ½ mks)
13. a) Name Three hormones that influence milk synthesis. (1 ½ mks)
    b) State Three factors that make a lactating cow to withhold milk. (1 ½ mks)
14. Mention Two uses of spring-tine harrow in the farm. (1mk)
15. State Four functions of the Lubrication system in a tractor engine. (2mks)
16. Give Two functions of drones in a bee colony (1mk)
17. Give Two problems associated with lambing (1mk)
18. Give Four pre-disposing factors of foot rot disease in sheep (2mks)

19. Define the following terms (2mks)
    i) Strategic treatment
    ii) Tactical treatment

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SECTION B (20 MARKS)

Answer all questions

20. Study the illustration of power transmission of a tractor below.

![Diagram of tractor power transmission]

a) Identify and name the parts labeled. (1 ½ mks)
   M………………………………………………………………………
   N………………………………………………………………………
   P………………………………………………………………………

b) State Three functions of part Q. (3 mks)

21. Below is a diagram representing the reproductive system in poultry. Study it and answer the questions.

![Diagram of poultry reproductive system]

a) Name the parts labeled A, X and Y (1 ½ mks)
   A………………………………………………………………………
   X………………………………………………………………………
   Y………………………………………………………………………
Y…………………………………………………………………

b) Name Two substances added to the egg at section labeled Y. (2mks)
c) How long does the egg stay at section labeled X. (½ mk)
d) Below is a diagram of an egg. Which part of the egg represented by letters Q and R would come out first during the laying process. (½ mk)

22. Below is an illustration of workshop tools, study them carefully and answer the questions that follow.

a) Identify tool X and Y (½ mk)
b) Name the parts labeled D, E, F and G (2mks)
c) Name the tool used for sharpening tool X. (½ mk)

23. Study the diagram below of an ox-plough and use it to answer the questions that follow.

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a) Name the parts labelled B, D and F (1 ½ mks)
B.................................................................
D.................................................................
F.................................................................

b) State the functions of the parts labeled A, C and E (1 ½ mks)
A.................................................................
C.................................................................
E.................................................................

c) State Four advantages of using the Ox-plough over the tractor drawn mouldboard plough (2 mks)

24. Study the diagram below carefully and answer the questions that follow. The number on the right ear represents litter number while the left ear number represents the individual number.

i) Name the livestock routine practice shown above. (½ mk)

ii) State Two reasons why farmers carry out the livestock routine practice shown in the diagram above. (2 mks)

SECTION C (40 MARKS)
Answer any Two questions

25. a) Explain any Five management practices a beef farmer should carry out during drought season to improve production. (5 mks)

b) Explain Five advantages of rearing birds through a battery cage system. (10 mks)

26. a) Write short notes on foot and mouth disease under the following sub-headings. (1 mks each)

i) Causal organism

ii) Mode of transmission

iii) Symptoms of attack (4 mks)
iv) Control Measures (4mks)

b) Explain the importance of keeping livestock health. (10mks)

27. a) Describe the procedure of establishing a fish pond. (10mks)

b) Describe the life cycle of a three host tick (1mk)

c) State the factors that affect digestibility (3mks)