

P515/2  
PRINCIPLES  
AND PRACTICES  
OF AGRICULTURE  
PAPER 2  
July/August 2024  
3 hours



WAKISSHA JOINT MOCK EXAMINATIONS

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper 2

3 hours

INSTRUCTIONS TO CANDIDATES:

- *This paper consists of sections A, B, C, D and E.*
- *Answer Question 1 in section A and **four** other questions selecting **one** question from each of the sections B, C, D and E.*
- *Any additional question(s) answered **will not** be marked.*

## SECTION A

### COMPULSORY QUESTION (20 MARKS)

1. The table below shows the effects of plant density on yields of grain for two maize varieties planted at the same time and on the same soil conditions. Study it and answer the questions that follow.

Plant density (plants ha <sup>-1</sup> )	Yield (kg ha <sup>-1</sup> )	
	VARIETY A	VARIETY B
3000	2500	2200
4500	4000	3000
6000	4500	3500
8000	3800	3000
Total	14,800	11,700

- (a) Explain the variation in the yield of the maize varieties above with planting density. (06 marks)
- (b) Apart from yield, explain two other agronomic attributes of maize that can be affected by planting density. (04 marks)
- (c) Basing on the data above, which variety would you recommend to a farmer with limited land? (04 marks)
- (d) Explain how genetic factors could have influenced the difference in the performance of the two varieties. (06 marks)

## SECTION B

### CROP PRODUCTION (20 marks)

2. (a) Highlight the advantages of using the following grazing systems.  
(i) Zero grazing.  
(ii) Rotational grazing. (08 marks)
- (b) What strategies would you recommend to a farmer in order to maintain his pastures in a high state of productivity? (12 marks)
3. (a) Explain the contributions of the following mineral elements to crop growth.  
(i) Potassium (04 marks)  
(ii) Phosphorus (04 marks)  
(iii) Nitrogen (04 marks)
- (b) Describe the procedure you would follow in order to obtain soil samples from a garden field for nutrient analysis. (08 marks)



### SECTION C

#### ANIMAL PRODUCTION (20 marks)

4. (a) Differentiate between water intoxication and water turn over in farm animals. (02 marks)
- (b) Explain the factors that influence water turn over in cattle. (12 marks)
- (c) Outline the importance of water to farm animals. (06 marks)
5. (a) Explain the conditions that can lead to low breeding efficiency in a herd. (14 marks)
- (b) Explain the influence of inbreeding in animal improvement programs. (06 marks)

### SECTION D

#### AGRICULTURAL ENGINEERING AND FARM STRUCTURES (20 marks)

6. (a) Explain the factors that influence the efficiency of field machinery. (08 marks)
- (b) What factors should a farmer consider while purchasing a tractor for farm use? (12 marks)
7. (a) Using examples, explain the economic importance of farm structures. (12 marks)
- (b) Describe the procedure of construction of a foundation for a typical farm building. (08 marks)

### SECTION E

#### AGRICULTURAL ECONOMICS (20 marks)

8. (a) Discuss the factors hindering the success of most agricultural policies and programs. (12 marks)
- (b) Examine the influence of land policy on the performance of the agricultural sector. (08 marks)
9. (a) Explain the strategies you would recommend to farmers in order to increase the rate of consumption for agriculture commodities. (08 marks)
- (b) Using an illustration, describe how the forces of supply and demand influence the equilibrium price. (12 marks)

**END**