

P515/2
PRINCIPLES
AND PRACTICES
OF AGRICULTURE
PAPER 2
July/August 2017
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

1. Table 1 shows the body surface area and volume of two farm animals A and B. Table 2 shows the rate of metabolism (in arbitrary units) of the two animals at varying environmental temperatures.

Table 1:

Farm animal	Surface Area (m ²)	Volume (m ³)
A	1.2	0.92
B	0.6	0.18

Table 2:

Environmental temperature (°C)	Metabolic rate arbitrary units	
	Animal A	Animal B
16	10.5	12.9
18	8.9	10.9
20	7.5	9.2
22	6.4	7.8
24	5.6	6.7
26	5.0	5.8

- a) From table 1;
- Work out the surface Area: Volume ratio of each animal. (02 marks)
 - State the structural differences between animal A and animal B with a reason. (02 marks)
- (b) On the same axes, plot a graph showing the metabolic rate of the two animals against environmental temperatures. (08marks)
- (c) From the graph, determine the metabolic rate of each animal when environmental temperature is 25°C. (02 marks)
- (d) Explain how environmental temperature affect the metabolic rate of the animals. (02 marks)
- (e) Explain how a farmer can increase feed intake in farm animals during high environmental temperatures. (04marks)

SECTION B

CROP PRODUCTION

2. (a) Enumerate the benefits of irrigation in crop production. (8 marks)
- (b) Describe how water from a stream can be used in furrow irrigation of a crop field. (12 marks)
3. (a) Identify the various requirements a farmer may need when planning a mushroom enterprise. (04 marks)
- (b) Describe the steps involved in mushroom production on the farm. (10 marks)
- (c) State the limitations of mushroom production as compared to other enterprises. (06 marks)

SECTION C

ANIMAL PRODUCTION

4. (a) Differentiate between water intoxication and water turn over in farm animals. (03 marks)
(b) Explain the factors that influence water turn over in cattle. (12 marks)
(c) Outline the importance of water to farm animals. (05 marks)
 5. (a) Explain the causes of stress among a laying flock. (08marks)
(b) Describe how you would identify poor layer from the flock for culling purposes (12marks)
6. (a) Describe how one can make a fence using Kie apple species on the farm. (08marks)
(b) Discuss the advantages of using hedge fences on the farm. (08marks)
(c) Mention the features that make a suitable plant species for live fencing. (04marks)
 7. (a) What is meant by the term calibration of a planter. (02marks)
(b) Describe how a tractor drawn planter operates. (10marks)
(c) How can a farmer ensure good performance of the planter. (08marks)

SECTION E

AGRICULTURE ECONOMICS

8. (a) Discuss the factors hindering the success of most agricultural policies and programs in Uganda. (12 marks)
(b) Examine the influence of land use policies on the performance of the agricultural sector. (08 marks)
9. (a) Pricing is a vital factor in the marketing sector, examine the determinants of agricultural produce and show the role of prices in the production of agricultural produce. (14 marks)
(b) Examine the causes of price fluctuations for agricultural commodities in Uganda today? (06 marks)

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