

P515/2
Principles and
Practices of
Agriculture
Paper 2
July/August 2019
3 hours

BUGANDA EXAMINATION COUNCIL

Uganda Advanced Certificate of Education

PRINCIPLES AND PRACTICES OF AGRICULTURE

THEORY

Paper 2

Time: 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 only **one** question from each of the sections **B, C, D** and **E**.*

Any additional question(s) attempted will not be marked

SECTION A
(COMPULSORY QUESTION) 20 MARKS

1. The table below shows the yield and quality of milk produced from two exotic cows on the same farm. Animal X was subjected to genetic improvement while animal Y was not. Study the information and answer the questions that follow.

Animal	Milk yield (litres)	Sugar content	Butter fat content	Protein	Percentage of water
X	18	5.8	3.6	3.6	82
Y	16	4.5	3.2	3.0	87.5

- a) Compare the yield and quality of milk from the two animals. (06 marks)
- b) Suggest the benefits of genetic improvement in the a dairy animal (03 marks)
- c) Identify the traits that can be improved in beef cattle. (03 marks)
- d) What is meant by genetic improvement? (02 marks)
- e) Why is genetic technology not widely used in Uganda? (06 marks)

SECTION B
CROP PRODUCTION

- 2(a) Explain how living organisms participate in soil formation (06marks)
 - (b) State and explain the factors that influence the abundance of living organisms in the soil. (07marks)
 - (c) Give reasons why you would recommended farmers to always carry out sampling of soil for crop production (07marks)
2. (a). Differences between Arabica coffee and Robusta coffee (06marks)
 - (b). Describe the procedure of carrying out bud grafting in tree crops (08marks)
 - (c). Explain the factors that affect the success of grafting (06marks)

SECTION C
ANIMAL PRODUCTION

3. (a). Explain the causes of swarming in bees (06marks)
- (b). Explain the advantages of using a top bar hive (08marks)
- (c). Suggest measures that can be taken to protect the bee hives from predators (06marks)

4. (a). Explain the management practices carried out in a deep-litter house to obtain maximum egg production (08marks)
- (b). State the abnormalities that can reduce the hatchability of eggs (06marks)
- (c). State the causes of stress in poultry birds (06marks)

SECTION D

AGRICULTURAL ENGINEERING

5. (a). Describe the procedure of establishing a barbed wire fence on the livestock farm (10marks)
 - (b). Explain why you would discourage the use of barbed hedges on the farm. (06marks)
 - (c). Give reasons for the popularity of wood in construction of farm structures (04marks)
6. (a). Explain the following in relation to simple machines (06marks)
 - i. Potential energy
 - ii. Efficiency of a machine
 - iii. Power
 - (b). A machine of effort 185N lifts a load of 680N through a distance of 6m. Given that the effort moves through a distance of 86m, determine; (06marks)
 - i. The mechanical advantage of the machine
 - ii. Velocity ratio of the machine
 - iii. Efficiency of the machine
 - (c). Explain how you would care and maintain farm tools and equipment (08marks)

SECTION E

AGRICULTURAL ECONOMICS

7. (a). Describe the roles of agricultural co-operatives in Uganda. (10marks)
 - (b). Explain the various ways that can be used to ensure effective use of agricultural credit by the farmers (10marks)
8. (a). Explain the following terms as used in agriculture production (4marks)
 - I. Gender
 - II. Sex
 - (b). Explain why women participation in large commercial farming is still low. (8marks)
 - (c). Suggest possible ways of increasing women participation in large scale commercial agricultural production (8marks)

END.