P515/2
Principles and
Practices of Agriculture
Paper 2
3 HOURS

MOCK EXAMINATIONS, 2019

UGANDA ADVANCED CERTIFICATE OF EDUCATION

PRINCIPLES AND PRACTICES OF AGRICULTURE

Paper2

Theory paper

3 hours

Instructions to candidates.

- Answer question 1 in section A and four other questions.

- Selecting one from each of the sections B, C, D and E.

1. The following data gives the fresh and dry weight of whole pea plants 8, 20, and 33 days after sowing in potting soil in normal light and in continuous darkness in a green house. The weights of the various parts of seedlings are given in grams.

   FW = Fresh weight   DW = Dry weight

		Average weight of 50 seedlings in normal day light			Average weight of seedlings in the dark		
		8	20	33	8	20	33
Shoots		0.4	1.53	3.13	0.66	1.42	2.67
	FW	0.04	0.12	0.26	0.04	0.07	0.07
	DW						
Roots	FW	0.35	0.55	0.97	0.31	0.39	0.35
	DW	0.02	0.04	0.01	0.20	0.02	0.02
Cotylydons	FW	0.71	0.47	0.40	0.71	0.47	0.40
	DW	0.13	0.03	0.01	0.13	0.03	0.01
Whole plant	FW	1.45	2.85	4.51	4.64	2.40	3.51
	DW	0.18	0.19	0.31	0.18	0.13	0.09

   a) Compare the changes in dry weight and fresh weights of the whole plants grown in normal light.   (04 marks)
   b) Compare the changes in dry weight and fresh weight of shoots grown in normal day light and darkness.   (06 marks)

c) Discuss the changes in the distribution of materials between the different parts of the embryo and plant. Suggest explanations for the mentioned changes.

(06 marks)

d) Explain the conditions that influence seed germination.   (04 marks)

SECTION B: CROP HUSBANDARY

2. a) Discuss the conditions that encourage soil aggregation.   (12 marks)

b) Explain the importance of soil structure to plant growth.   (08 marks)

3. a) What benefits do crops get when interplanted with tress?   (12 marks)

b) Outline the characteristics of trees species to be used for agro forestry.

(08 marks)

SECTION C: ANIMAL HUSBANDARY

4. a) Describe the methods used to select farm animals for breeding.   (08 mark)
    b) Explain the characteristics to be considered when selecting dairy animals for breeding.

(12 marks)

5. a) Describe the factors that may cause fish mortality.   (08 marks)
    b) Explain how you would maintain a fish pond at maximum productivity.

(12 marks)

SECTION D: AGRICULTURAL ENGINEERING.

6. a) Describe the components of a good mechanical planter.   (08 marks)
    b) What are the advantages of using a mechanical planter?   (05 marks)
    (c) Outline the maintenance practices of sprayers on the farm.   (7 marks)

7. a) Describe the procedure of mixing concrete for a foundation of a farm building.

(10 marks)

b) Explain the conditions that may lead to failure of farm buildings. (10 marks)

SECTION E: AGRICULTURAL ECONOMICS

8. a) Explain the importance of prices in agricultural production.   (12 marks)
    b) Outline the factors that determine the price of a commodity.   (08 marks)

9. a) What is land reform?   (02 marks.)

    b) Explain the objectives of land reform.   (10 marks)

    c) Outline the various land reform measures that may lead to improved agricultural

    production.   (08 marks)

                                                                          END