**P515/2**

**PRINCIPLES AND PRACTICES**

**OF AGRICULTURE**

**Paper 2**

**Jul / Aug 2016**

**3 Hours**



**MUKONO EXAMINATIONS COUNCIL**

**Uganda Advanced Certificate of Education**

**PRINCIPLES AND PRACTICES OF AGRICULTURE**

**(Theory)**

Paper 2

**3 Hours**

**INSTRUCTIONS TO CANDIDATES**

* *Question* ***1*** *is compulsory.*
* *Answer* ***four*** *other questions selecting at least* ***one*** *from each sections;* ***I****,* ***II****,* ***III*** *and* ***IV***

1. An experiment was conducted to determine the rate of water retention and drainage in three air dry soil samples of sand, loam and clay 50cm3 each. 50cm3 of water was quickly added and the results of water recorded every after two minutes for twenty minutes as seen in the table below.

|  |  |  |  |
| --- | --- | --- | --- |
| Results | Sandy soil | Loam soil | Clay soil |
| 2 minutes | 8 | 3 | - |
| 4 minutes | 14 | 5 | 1 |
| 6 minutes | 20 | 6 | 2 |
| 8 minutes | 24 | 7 | 3 |
| 10 minutes | 28 | 8 | 4 |
| 12 minutes | 32 | 9 | 5 |
| 14 minutes | 36 | 12 | 8 |
| 16 minutes | 40 | 15 | 10 |
| 18 minutes | 42 | 18 | 12 |
| 20 minutes | 45 | 22 | 13 |

1. Calculate the percentage water retention of each soil after 16 minutes. ***(03marks)***
2. Sand soil
3. Loam soil
4. Clay soil
5. Calculate the percentage of water drainage in each soil sample after 20 minutes. ***(03marks)***
6. Plot a graph showing the relationship between the three samples of soil in terms of drainage rates. ***(05marks)***
7. What conclusions can you make about the graph? ***(03marks)***
8. How can sand and clay soil samples be improved? ***(06marks)***

**SECTION I**

**CROP AND SOIL**

1. a) Very many farmers make losses due to poor handling of produce after harvest. Explain the major cause of post-harvest losses. ***(10marks)***

b) How can a farmer reduce post-harvest losses on his farm? ***(10marks)***

1. Crop rotation is a widely used cultural measure in weed control, soil fertility regeneration and conservation of water.
2. Explain how it is used in the above three situations. ***(10marks)***
3. Explain the principles that should be followed when determining the second crop in a rotation. ***(10marks)***

**SECTION II**

**ANIMAL PRODUCTION**

1. a) Diseases, parasites and stress cause greater losses to fish farmers in Uganda. Explain the major signs that can be used to identify disease, parasite and/or stress in fish.

***(10marks)***

b) How can a farmer prevent the above conditions in a pond? ***(10marks)***

1. a) What is the procedure for producing clean and safe milk on a dairy farm? ***(10marks)***

b) Explain the factors that affect the composition and yield of milk produced by a cow.

***(10marks)***

**SECTION III**

**FARM MECHANIZATION AND STRUCTURES**

1. a) Explain the factors responsible for the success of draught technology in some parts of

Uganda. ***(12marks)***

b) What advantages are associated with the use of draught technology? ***(04marks)***

c) Suggest measures government should take to increase adoption of draught

technology in Uganda. ***(04marks)***

1. a) Explain the functional requirement of a crop store. ***(10marks)***

b) What are the qualities of a good farm gate? ***(10marks)***

**SECTION IV**

**AGRICULTURE ECONOMICS**

1. a) Explain the role of government in Agricultural production. ***(12marks)***

b) What problems do farmers in Uganda face? ***(08marks)***

1. a) Explain the problems government faces in trying to implement price stability for

agriculture products. ***(12marks)***

b) Outline the effects of price fluctuations in farming. ***(08marks)***

***End -***