

P515/2

**PRINCIPLES &**

**PRACTICES OF AGRICULTURE**

Paper 2

3 hours

## **Resourceful mock examinations, 2017**

**Uganda Advanced Certificate of Education**

**Principles & Practices of Agriculture**

**Paper 2**

**Theory**

**3 Hours**

### **INSTRUCTIONS**

*Answer question **I** in section **A** and **four** other questions, selecting one from each of the section; **B, C, D and E***

*Write the answer for each question on a separate sheet of new page.*

### SECTION A (20 MARKS)

1. The distribution of grass types in open pasture is affected among other factors by grazing of the animals. Experiments were carried out in which some parts of the pasture were protected (excluded) from the grazing by enclosures which kept away the grazing animals.

The abundance (in weight) of certain individual grass species inside and out side the enclosure was determined after 19 months by harvesting the shoots, by clipping and determining the dry matter weight.

The results are shown below;

|                               | <i>Inside enclosure</i> | <i>Open grazed area</i> |
|-------------------------------|-------------------------|-------------------------|
| Grass species                 | <i>Mean weight (g)</i>  | <i>Mean weight (g)</i>  |
| <u>Sporobolus pyramidalis</u> | 20.6                    | 103.1                   |
| <u>Hyparrhenia</u>            | 51.6                    | 16.2                    |
| <u>Bracharia decumbens</u>    | 52.0                    | 3.6                     |
| <u>Bothriochloa sp</u>        | 21.5                    | 13.7                    |
| <u>Themeda triadra</u>        | 53.6                    | 4.1                     |
| <u>Other grasses</u>          | 48.3                    | 21.5                    |

- (a) Construct histograms to illustrate the abundance of the grass species under the two conditions.
- (b) Attempt to explain why sporabolus phyramidalis is more abundant in the grazed area whereas the other grass species are more abundant only when protected from grazing by an enclosure.
- (c) In what environment (inside enclosure or outside) is the number of grass species likely to be large and for what reasons?

### SECTION B (20MARKS)

#### CROP PRODUCTION

2. (a) Discuss the factors that influence the choice of crops to be grown in an area. (15marks)
- (b) Why is intercropping a desirable practice in crop production. (05marks)
3. (a) Explain how soil structure can be destroyed . (07marks)

- (b) What is the significance of soil temperature in crop production? (07marks)
- (c) Outline the benefits of applying lime in acidic soils. (06marks)

### **SECTION C (20 MARKS)**

#### **ANIMAL PRODUCTION**

4. (a) Briefly explain the following terms as used in the description of animal feeds.
- (i) Starch equivalent (SE) (02marks)
- (ii) Total digestible nutrient (TDN) (02marks)
- (iii) Digestible crude protein (DCP) (02marks)
- (b) Outline the function played by the following in the animal's body.
- (i) Water (06marks)
- (ii) Carbohydrates (04marks)
- (iii) Proteins (04marks)
5. Discuss the management of day old chicks from the time of arrived to four weeks, including preparation to receive them. (20marks)

### **SECTION D (20 MARKS)**

#### **AGRICULTURAL MECHANIZATION**

6. (a) Describe the fuel system of a diesel farm tractor engine. (15marks)
- (b) Explain how the fuel system can be maintained in a good working conditions? (05marks)
7. (a) Outline the role of farm structures in agricultural production. (12marks)
- (b) With the aid of a labelled diagram, describe the structure of a typical modern farm building. (08marks)

**SECTION E (20 MARKS)**  
**AGRICULTURAL ECONOMICS**

8. (a) Suggest reasons for the resettlement of population in Uganda. *(10marks)*  
(b) Explain the causes of high population growth in Uganda. *(10marks)*
9. (a) Describe the types of production functions that are experienced in farming. *(10marks)*  
(b) Explain how the production function can be used to determine the most profitable levels of production. *(10marks)*

**END**