

**MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY**

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**University Examinations 2015/2016**

SECOND YEAR, FIRST SEMESTER EXAMINATION FOR DIPLOMA IN AGRICULTURE

**BIO 0210: AGRICULTURAL BIOCHEMISTRY**

**DATE: NOVEMBER, 2015 TIME:** $1½ $**HOURS**

**INSTRUCTIONS:** *Answer question* ***one COMPULSORY*** *and any other* ***two*** *questions.*

**QUESTION ONE – (30 MARKS)**

1. Define the following terms; (6 Marks)
2. Biochemistry
3. Vitaminosis
4. Biomembranes
5. What are the properties of water? (5 Marks)
6. Give five important functions of lipids in plants and animals. (5 Marks)
7. State the common monosaccharides encountered in human diet. (3 Marks)
8. Which are the building blocks of a nucleotide? (3 Marks)
9. Describe three functions of carbohydrates. (6 Marks)
10. Classify vitamins into two groups. (2 Marks)

**QUESTION TWO (15 MARKS)**

1. Discuss factors affecting enzyme activities. (8 Marks)
2. Describe briefly the functions of the bio membranes. (7 Marks)

**QUESTION THREE (15 MARKS)**

1. Outline four types of protein, their functions and give relevant examples of each.

(12 Marks)

1. Give three functions of cholesterol that make it an important compound in human beings

 (3 Marks)

**QUESTION FOUR (15 MARKS)**

1. Discuss the differences that exist between DNA and RNA. (9 Marks)
2. Name three organelles found in a cell. Give one function of each organelle named. (6 Marks)