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**MAASAI MARA UNIVERSITY**

**UNIVERSITY EXAMINATIONS 2017**

**FORTH YEAR SECOND SEMESTER EXAMINATION**

**FOR**

**THE DEGREES OF BACHELOR OF EDUCATION (SCIENCE) BACHELOR OF SCIENCE**

**BOT 415: PLANT PHYSIOLOGY II**

**DATE: 11th MAY 2017 TIME: 1100-1300**

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**INSTRUCTIONS TO CANDIDATES**

1. **Answer ALL Questions in Section A**
2. **Answer ANY TWO Questions in Section B**
3. **Illustrate your answers with well labeled diagrams where appropriate**

**SECTION A: Short answer questions (3 marks each)**

1. Explain how plants obtain glucose from stored proteins*.* **(3 marks)**
2. Describe the degradation of triglycerides in plants. **(3 marks)**
3. Explain the biosynthesis of amino acids through reductive amination.

 **(3 marks)**

1. State three characteristics of coenzymes. **(3 marks)**
2. Highlight the functions of coenzyme A in plants. **(3 marks)**
3. Outline the role of vitamin C in plants. **(3 marks)**
4. Write short notes on vitamin B6 complex. **(3 marks)**
5. Describe the CAM pathway organic acids. **(3 marks)**
6. Distinguish between the following terms;
7. Catabolism and anabolism **(1 mark)**
8. Cofactor and coenzyme **(1 mark)**
9. Lysases and ligases **(1 mark)**
10. Describe the assimilation of inorganic nitrogen. **(3 marks)**

**SECTION B: ESSAY (20 Marks each)**

1. Discuss the process of protein synthesis in microorganisms.

**(20 marks)**

1. Write an essay on the properties of enzymes. **(20 marks)**
2. Discuss the Tricarboxylic Acid Cycle (TCA) cycle. **(20 marks)**
3. By indicating the enzymes involved, discuss the nitrogen cycle. **(20 marks)**