

**UNIVERSITY OF KABIANGA**

**UNIVERSITY EXAMINATIONS**

**2013/2014 ACADEMIC YEAR**

**SECOND YEAR SECOND SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELOR OF SCENCE IN BIOCHEMISTRY**

**COURSE CODE: BIO 212**

**COURSE TITLE: BASIC METABOLISM**

**DATE: 29TH JULY, 2014**

**TIME: 9.00 A.M-12.00 NOON**

**INSTRUCTIONS TO CANDIDATES:**

**ATTEMPT ALL QUESTIONS (TOTAL 70 MARKS)**

1. State the three key roles of catabolic metabolism in a living cell. (3 marks)
2. Give an explanation of two hormones that regulate the utilization of glucose in a living cell. (5 marks)
3. Sate five major pathways of glucose metabolism. (5 marks)
4. Using structure, describe the fructolysis pathways. (4 marks)
5. State the two regulatory factors of citric acid cycle pathways. (4 marks)
6. State two importance of triacylglycerol in a cell metabolism. (2 marks)
7. Explain three main usages of the amino acids in a cell. (6 marks)
8. Discuss why NADPH is needed in addition to NADH in a biochemical reaction. (10 marks)
9. Discuss the ubiquinone cycle. (10 marks)
10. Using structures, outline the B-oxidation pathway and clearly indicate the coenzymes and enzymes involved. (10 marks)
11. Discuss the degradative pathway of amino acid leucine. (10 marks)