THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF NATURAL SCIENCES (BIOLOGY)

SCHOOL FOCUSED PROGRAMME

BIO 100: GENERAL BIOLOGY

Date: April 2015	**Duration: 2 Hours**
Instructions: Answer Question ONE and any other TWO Questions.	

Q1. a) Using relevant examples, differentiate between polysaccharides and monosaccharides.

(2 marks)

b) Outline the steps you would follow to obtain a pure enzyme from a bacterial cell.

(6 marks)

c) Differentiate between lock and key theory and induced fit theory.

(3 marks)

d) Illustrate the role of enzymes in biological reactions.

(4 marks)

e) State the location at the following reactions: -
   i) Glycolysis
   ii) Photophoshorylation
   iii) Krebs Cycle

f) Explain the steps in the scientific method.

(6 marks)

g) Differentiate between the following terms: -
   i) Light dependent and light independent reactions of photosynthesis
   ii) Protosystem I and photosystem II
   iii) Coenzyme and cofactor

(6 marks)

Q2. Describe the light dependent and light independent reactions in photosynthesis.

(20 marks)

Q3. Explain classification, structure and function of proteins.

(20 marks)

Q4. Compare and contrast prokaryotes and Eukaryotes.

(20 marks)

Q5. Explain the theories relevant in modern biology.

(20 marks)

END