



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2018 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

SPECIAL / SUPPLEMENTARY EXAMINATION

BIO 100: GENERAL BIOLOGY

Date: APRIL 2018

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Explain the cell theory (3 marks)
- b) Illustrate the role of enzymes in biological reactions (4marks)
- c) List and explain theories that explains enzyme activity (6 marks)
- d) Name the 4 most common elements found in living organisms (2 marks)
- e) Which biological process uses the latent heat of vapourization of water (1 mark)
- f) List and explain two essential structural differences between starch and cellulose (4 marks)
- g) Why is carbon referred to as tetravalent? (1 mark)
- h) Briefly explain two unifying themes in modern biology (4 marks)
- i) Give a reason why the secondary structure of DNA is called a double helix (2 marks)
- j) Differentiate between (3 marks)

- i) Monosaccharides
- ii) Dissaccharides
- iii) Polysaccharides

- Q2. Discuss four of the five Kingdoms of organisms **(20 marks)**
- Q3. Explain the light dependent and light independent stages of photosynthesis **(20 marks)**
- Q4. Relate the properties of water to its function in organisms **(20 marks)**
- Q5. Explain the different functions of lipids, proteins and carbohydrates in organisms **(20 marks)**

END