



# THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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**MAIN EXAMINATION**

**SEPTEMBER –DECEMBER 2021**

**FACULTY OF SCIENCE**

**DEPARTMENT OF BIOLOGY**

**REGULAR PROGRAMME**

**BIO 101: CYTOLOGY AND PHYSIOLOGY**

**Date: DECEMBER 2021**

**Duration: 2 Hours**

**INSTRUCTIONS: Answer Question ONE and any TWO Questions**

- Q1. a) Outline four advantages of being in multicellular state **(4 marks)**
- b) Describe the properties of a true cell **(6 marks)**
- c) Define the following terms:-
- i) Chemosynthesis **(1 mark)**
  - ii) Pectin **(1 mark)**
  - iii) Mycoplasma **(1 mark)**
  - iv) Gene theory **(1 mark)**
  - v) Amyloplast **(1 mark)**
- d) Contrast plant cell and bacterial one **(6 marks)**
- e) Briefly describe the following organisms:-
- i) Prions and their role in Alzheimer disease **(2 marks)**
  - ii) Mycoplasma **(2 marks)**
- f) Enumerate the functions of membrane proteins **(5 marks)**
- Q2. Using an illustration, discuss the cell cycle **(20 marks)**

- Q3. A male student taking Bio 101 decided to have a hair-cut. After a few weeks, the hair re-grew. Discuss scientifically how the student regained his hair (20 marks)
- Q4. Discuss the cytochemistry of Golgi body (20 marks)
- Q5. Discuss synthesis of organic compounds by green plants (20 marks)

DTE DEC 2021

**\*END\***