



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

A. M. E. C. E. A

MAIN EXAMINATION

JANUARY – APRIL 2015 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF NATURAL SCIENCES (BIOLOGY)

REGULAR PROGRAMME

BIO 305: MICROBIOLOGY

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

- Q1. a) Explain the differences between prokaryotes and eukaryotes. **(3 marks)**
- b) Discuss the Kochs postulates on the relationship between a micro-organism and a specific disease. **(3 marks)**
- c) Discuss 6 main steps involved in Viral replication. **(3 marks)**
- d) Explain 3 types of culture media **(3 marks)**
- e) Draw a well labeled diagram of a bacteriophage T4. **(6 marks)**
- f) Explain the following terms as used in microbiology
- i) Psychrophiles
 - ii) Mesophiles
 - iii) Thermophiles
 - iv) Hyperthermophiles
- (2 marks)**
- g) Explain the theory of spontaneous generation. **(2 marks)**
- h) Differentiate between a gram +ve and gram –ve bacteria. **(2 marks)**
- i) Discuss the benefits of fermentation as a method of food preservation. **(3 marks)**
- g) Discuss the symbiotic relationship of protozoan and termite. **(4 marks)**
- Q2. Discuss economic importance of bacteria. **(20 marks)**

- Q3. Discuss the different types of food spoilage and 4 methods of preservation.
(20 marks)
- Q4. Discuss the methods used for isolation, maintenance and preservation of pure cultures.
(20 marks)
- Q5. Discuss industrial application of micro-organisms.
(20 marks)

END