



THE CATHOLIC UNIVERSITY OF EASTERN AFRICA

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MAIN EXAMINATION

JANUARY – APRIL 2019 TRIMESTER

FACULTY OF SCIENCE

DEPARTMENT OF BIOLOGY

REGULAR PROGRAMME

BIO 312: BACTERIOLOGY

Date: April 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a) Describe the arrangement of cocci and Bacilli bacterial cells **(4 marks)**
- b) Kingdom Archaeobacteria is Sub-divided into 3 groups based on their habitat: methanogens, thermoacidophiles and extreme halophiles, briefly describe this groups **(5 marks)**
- c) i) List and explain method used for identifying bacteria. **(4 marks)**
ii) Briefly discuss the characteristics of a gram positive and a gram negative bacteria **(4 marks)**
- d) List methods of nutrition that bacteria use to obtain food **(2 marks)**
- e) Differentiate the following terms as used in bacteriology **(6 marks)**
i) Conjugation
ii) Transformation:
iii) Transduction
- f) Describe the Steps of bacterial pathogenesis **(5 marks)**
- Q2. Discuss economic importance of bacteria **(20 marks)**
- Q3. Microorganisms have been found in environments that were once thought not to be able to sustain life. Discuss how bacteria are able to live in this extreme environments **(20 marks)**

- Q4. Antibiotics stop or interfere with a number of everyday cellular processes that bacteria rely on for growth and survival, describe how antibiotics interfere with bacteria and the mechanisms used by bacteria to resist antibiotics **(20 marks)**
- Q5. Describe the methods that you would use during a laboratory session to get pure cultures of bacterial isolates **(20 marks)**

END