



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 305: GENERAL MICROBIOLOGY

Date: April 2019

Duration: 2 Hours

INSTRUCTIONS: Answer Question ONE and any other TWO Questions

- Q1. a). List and explain the two types of cell in microbial world **(2 marks)**
- b). Describe the microbial iron uptake **(5 marks)**
- c). Describe the Koch postulates **(4 marks)**
- d). 1) with the aid of a diagram describe any bacterial cells arrangements **(2 marks)**
2) Describe the principle of gram staining **(4 marks)**
- e). Differentiate the following theories **(4 marks)**
i) Spontaneous generation theory
ii) Germ theory
- f). Using Aflotoxin as an example describe alimentary mycotoxicoses **(4 marks)**
- g). Briefly discuss bio-preservation **(5 marks)**
- Q2. Discuss factors that cause foodborne illness **(20 marks)**
- Q3. During a laboratory session John cultured, isolated and identified bacterial isolates as being gram positive and gram negative bacteria. Discuss the method of identification that he used and the features that he saw in the two bacteria **(20 marks)**

- Q4. Microorganisms can be grouped depending on their source of carbon, electron and energy ,discuss this major groups, the basic nutritional requirements of microbes highlighting mechanisms used to absorb nutrients by the microbes
(20 marks)
- Q5. As a microbiologist, describe how you would get pure cultures of bacteria isolates
(20 marks)

END