

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR
OF SCIENCE IN BIOLOGICAL SCIENCE IN BIOLOGY & BACHELOR
OF MATHEMATICS/CHEMISTRY

BOTA 131: GENERAL MICROBIOLOGY

STREAMS: BSC, BIO, BED (SCI)

TIME: 2 HOURS

DAY/DATE: MONDAY 09/12/2019

2.30 P.M. – 4.30 P.M.

INSTRUCTIONS:

- Answer all questions in section A and any two in section B
- Do not write anything on the question paper
- Use illustrations where appropriate

SECTION A (30 MARKS)

1. (a) Define the following terms: [3 marks]
 - (i) Coenocytic hyphae
 - (ii) Haustoria
 - (iii) Plasmogamy
- (b) List any two advantages of dimorphism in fungi [2 marks]
2. State the contribution of each of each of the following scientists in the advancement of microbiology discipline [5 marks]
 - (a) Hans Christian gram
 - (b) Louis Pasteur
 - (c) Robert Hocke
 - (d) Edward Jenner
 - (e) Loeffler and Frosch

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3. Describe the different morphological forms of viruses [4 marks]
4. (a) State the functions of the following structures in bacteria [2 marks]
 - (i) Mesosome
 - (ii) Slime layers
- (b) Describe appropriate streaking method of bacteria in a culture media [3 marks]
5. Using well labeled illustrations, describe different phases of microbial growth. [5 marks]
6. Outline any five distinguishing features between a prokaryotic and a eukaryotic cell [5 marks]

SECTION B (40 MARKS)

7. Microorganisms are both beneficial and harmful to the environment. Discuss economic benefits of microorganisms in the environment. [20 marks]
 8. Discuss different types of sterilization in microbiology [20 marks]
 9. (a) using illustrations, describe five types of asexual spores [10 marks]
 - (b) Discuss budding in yeast [10 marks]
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