

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
MICROBIO AND BIOTECH**

BOTA 222: BACTERIOLOGY

STREAMS: BSC MICROBIO & BIOTECH

TIME: 2 HOURS

DAY/DATE: THURSDAY 08/07/2021

8.30 A.M – 10.30 A.M

INSTRUCTIONS:

Answer all questions in section A and any two questions in section B

1. Describe any five major historical events in the development of bacteriology. [5 marks]
2. Explain how you would diagnose a plant disease that is suspected to be caused by bacteria. [5 marks]
3. Describe five features of archaea. [5 marks]
4. Describe the functions of the following structures in a bacterium.
 - (i) Capsule [3 marks]
 - (ii) Fimbriae [2 marks]
5. With the aid of a well labelled diagram, illustrate the structure of a bacterial endospore. [5 marks]
6. Explain how to obtain pure colonies of a plant pathogenic bacteria from an infected potato tuber. [5 marks]

SECTION B

7. (a) Describe the classification of bacteria based on shape. [10 marks]

(b) Outline the symptoms and management methods of bacterial soft rot disease in plants. [10 marks]

8. (a) Discuss situations where antimicrobial prophylaxis may be applied. [10 marks]

(b) A factory is suspected to be discharging water that is contaminated with a harmful bacterial. Explain how to determine the concentration of the bacteria in the waste water. [10 marks]

9. (a) Discuss how bacterial resistance to antibiotics can be prevented. [10 marks]

(b) Describe the application of Koch's postulates. [10 marks]
