

CHUKA



UNIVERSITY

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**THIRD YEAR EXAMINATION FOR THE AWARD OF
DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY**

BIOC 335: ANTIBIOTICS

STREAMS: BSC. BIOCHEMISTRY Y3S2

TIME: 2 HOURS

DAY/DATE: TUESDAY 6 /07/ 2021

8.30 AM – 10.30 AM

INSTRUCTIONS:

- Answer Question ONE and any other TWO Questions.
- Do not write on the question paper

QUESTION ONE (30 MARKS)

- Explain the difference between bacteriostatic and bactericidal antibiotics. [5 Marks]
- The correct use of antibiotics can prevent the increase in antibiotic resistance. How should antibiotics be used correctly? [5 Marks]
- Explain why antibiotics are not effective against viruses. [4 Marks]
- Bacteriostatic antibiotics slow the growth of bacteria by interfering with processes the bacteria need to multiply. Describe these processes. [6 Marks]
- Describe the mechanism of action of β -lactam antibiotics. [10 Marks]

QUESTION TWO (20 MARKS)

- Using specific examples describe how antibiotics inhibit protein synthesis in bacteria. [10 Marks]
- Describe how antibiotic inactivation by group transfer occurs. [10 Marks]

QUESTION THREE (20 MARKS)

- a. Describe how dissemination of multiple drug resistance occurs during horizontal gene transfer. [10 Marks]
- b. Describe the various families of bacteria drug efflux transporters. [10 Marks]

QUESTION FOUR (20 MARKS]

- a. Describe the mode of action of bacitracin and explain why it is exclusively used in topical formulations. [8 Marks]
 - b. Describe how broader spectrum of activity is achieved by carbapenem thienamycin. [12 Marks]
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