



# UNIVERSITY OF KABIANGA

## UNIVERSITY EXAMINATIONS 2016/2017 ACADEMIC YEAR SUPPLEMENTARY/SPECIAL EXAMINATION

### FOR THE DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY

**COURSE CODE: BIO 319**

**COURSE TITLE: ANTIBIOTICS**

**DATE: 12<sup>TH</sup> SEPTEMBER, 2017      TIME: 11.30 A.M - 2.30 P.M.**

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#### **INSTRUCTIONS TO CANDIDATES**

- SEE INSIDE

THIS PAPER CONSISTS OF (2) PRINTED PAGES

PLEASE TURN OVER

**UNIVERSITY of KABIANGA**  
**SUPPLEMENTARY/SPECIAL EXAMINATIONS**  
**SECOND SEMESTER 2016/2017 ACADEMIC YEAR**  
**BIO 319: ANTIBIOTICS**

**TIME: 3 HOURS**

**INSTRUCTIONS: attempt all questions in section A and any two in section B**

**SECTION A: ANSWER ALL QUESTIONS (40Mks)**

1. Giving examples, discuss the different types of bacterial cell walls. (8mks)
2. (a) Describe B-lactams antibiotics and draw their nuclear core. (4mks)  
(b) With the aid of diagrams, give any two examples of  $\beta$ -lactam antibiotics. (4mks)
3. Giving examples discuss antibiotics that inhibit protein synthesis. (8mks)
4. what are the basic requirements during fermentation in the production of antibiotics. (8mks)
5. (a) Describe sulfonamides. (3mks)  
(b) Briefly discuss rapidly absorbed sulfonamides and poorly absorbed sulfonamides. (5mks)

**SECTION B: ANSWER ANY TWO QUESTIONS (30mks)**

6. Using an illustration, describe how antibiotics (sulfonamides and trimethoprim) inhibit synthesis of essential metabolites. (15mks)
7. Discuss how biotechnology has been used in the production of polyketide antibiotics. (15mks)
8. (a) Discuss the characteristic of anthrax that makes it a suitable agent for bioterrorism. (5mks)  
(b) Describe stockpiling and the problems associated with it. (10mks)