# ELIZADE UNIVERSITY, ILARA-MOKIN, NIGERIA

**FACULTY: BASIC & APPLIED SCIENCES**

**DEPARTMENT: BIOLOGICAL SCIENCES**

**FIRST SEMESTER EXAMINATION**

**2019/2020 ACADEMIC SESSION**

**COURSE CODE:** MCB 405

**COURSE TITLE:** PHARMACEUTICAL MICROBIOLOGY

06/02/2020

**HOD's SIGNATURE**

**COURSE UNIT(S):** 2 UNITS

**DURATION:** 2 HOURS

**NAME:**.....

**MAT. No:**.....

**INSTRUCTIONS:** ANSWER ANY 3 QUESTIONS.

## QUESTIONS

1. a) i. What do you understand by 'microbial growth curve'?

   ii. Explain generation time

   iii. Determine the doubling time of a bacterial population that increases from: 10,000 cells to 10,000,000 cells within five hours of growth?

   Given; $G = \frac{t}{3.3 \log b/B}$

   Where G – Generation time, t – time, b – the final population level, B – the initial population level.

   b) i. Differentiate between the terms "Antibiotics" and "Antimicrobials"

   ii. Describe two (2) primary effects of antibiotics against bacteria **(20marks)**

2. Describe the mechanisms of action of any two (2) of the following classes of antibiotics:
   i. Beta - Lactam drugs
   ii. Aminoglycosides drugs
   iii. Fluoroquinolones drugs
   iv. Sulfonamides drugs **(20marks)**

3. Compare and contrast between the following techniques for evaluating the Minimum inhibitory concentration of an antibiotic
   i. Serial dilution
   ii. Kirby – Bauer disc diffusion test. **(20marks)**

4. a. Bacteria diseases are easier to treat than fungal and viral diseases. Discuss the reason(s)

   b) Explain how secondary screening of antibiotic producing strains of bacteria is carried out. **(20marks)**

5. a. Outline the basic steps in the production of tetracycline antibiotic.

   b. Explain the contributions of Gehard Domagk in the development of antibiotics. **(20marks)**