



**ELIZADE UNIVERSITY,  
ILARA-MOKIN, NIGERIA**

**FACULTY: BASIC & APPLIED SCIENCES**

**DEPARTMENT: BIOLOGICAL SCIENCES**

**FIRST SEMESTER EXAMINATION**

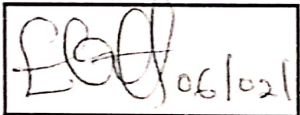
**2019/2020 ACADEMIC SESSION**

**COURSE CODE: MCB 405**

**COURSE TITLE: PHARMACEUTICAL MICROBIOLOGY**

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

**DURATION: 2 HOURS**



**HOD's SIGNATURE**

**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 Gerhard Domagk in the development of antibiotics. **(20marks)**