CRAWFORD UNIVERSITY
FAITH CITY, IGBESA, OGUN STATE

2024/2025 HARMATTAN SEMESTER EXAMINATIONS
COLLEGE: NATURAL AND APPLIED SCIENCES
DEPARTMENT: BIOLOGICAL SCIENCES
PROGRAMME: MICROBIOLOGY
COURSE CODE: MCB 413
COURSE TITLE: PHARMACEUTICAL MICROBIOLOGY
COURSE UNIT: 3 **TIME ALLOWED: 2HRS 30MINS**

INSTRUCTION: ANSWER FOUR QUESTIONS IN ALL. QUESTIONS ONE (1) IS COMPULSORY. ALL QUESTIONS CARRY 15 MARKS EACH.

1a. Explain the concept of selective toxicity and its importance in antimicrobial therapy. (10 marks) b. Discuss the challenges associated with achieving selective toxicity in antifungal drugs. (5 marks)

2. Describe the different types of synthetic antimicrobials and the mechaniosm of action. Provide examples of each type. (15 marks)

3a. Discuss the differences between natural and semi-synthetic beta-lactam antibiotics. Provide examples of each type. (8 marks)

b. Describe the mechanisms of action and clinical uses of macrolides and tetracyclines. (7 marks)

4. Discuss the mechanisms of action of azoles, echinocandins, and polyenes. Provide examples of drugs within each class. Provide examples for each type. (15 marks)

5. Identify and describe the major targets of antibacterial drugs. Provide a well-labelled diagram. (15 marks)

6a. Explain the mechanisms of action and resistance of beta-lactam antibiotics. (10 marks)

b. Describe the mode of action of daptomycin and its clinical applications. (5 marks)