



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF LIFE SCIENCES
DEPARTMENT OF MICROBIOLOGY
SECOND SEMESTER EXAMINATION 2018/2019 SESSION
PHARMACEUTICAL MICROBIOLOGY (MCB 525) 3 UNITS

Instruction: Answer four questions in all. Attempt only two questions in each section

Time: 2 hours

SECTION A

- 1(a). Describe the various types of antimicrobial agents
- 1(b). Highlight the properties of a good chemotherapeutic agent
- 1(c). List 10 routes of administration of pharmaceutical products

- 2(a). Make very clean diagrams of the following antibiotics:
 - (i) **Penicillin G**
 - (ii) **Amoxicillin**

- 2(b). Describe 5 African plants and their usefulness in traditional medicine
- 3(a). What do you understand by spoilage and preservation of pharmaceutical products?
- 3(b). What factors affect microbial spoilage of pharmaceutical products?
- 3(c). Briefly outline how to control spoilage of pharmaceuticals.

SECTION B

- 4
 - (i) Explain plant tissue homogenization.
 - (ii) What is its significance?
 - (iii) How does it differ from serial exhaustive extraction?
 - (iv) Explain the aim of serial exhaustive extraction.

- 5(a). Briefly discuss the various methods available for concentrating extracts.
- 5(b). How would you determine the sensitivity of a microorganism by microbroth dilution method?

6. Briefly explain how the following organisms resist antimicrobial agents:
 - (a) *Pseudomonas aeruginosa*
 - (b) *Micrococcus luteus*
 - (c) *Streptococcus mutans*

- (d) *Streptococcus pneumoniae*
- (e) *Streptococcus pyogenes*