



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF LIFE SCIENCES
DEPARTMENT OF MICROBIOLOGY

SECOND SEMESTER EXAMINATION 2014/2015 SESSION

COURSE CODE: MCB 525

COURSE TITLE: PHARMACEUTICAL MICROBIOLOGY (3 UNITS)

CLASS: 500 LEVEL

TIME: 2 HOURS

Instructions: Attempt any two questions in section A, question 1 and any other one in section B.

SECTION A

- 1(a). Explain sterilization of pharmaceutical products
- 1(b). Describe peritoneal and haemodialysis
- 2(a). Draw clear chemical structures of **Ciprofloxacin, Tetracyclines, Cephalosporin** and **Chloramphenicol**
- 2(b). What is total parenteral nutrition (TPN)?
- 3(a). Discuss NAFDAC guidelines for establishment of pharmaceutical industries in terms of organization, personnel, building(s) and facilities, and lighting.
- 3(b). Explain the 'viable but non-culturable' (VBNC) hypothesis of growth and death of microorganisms

SECTION B

- 1(a). Calculate the percentage mycelial inhibition, if mycelial growth for control is 1.9×10^4 cfu/ml and mycelial growth for treatment is 1.0×10^3 cfu/ml
- 1(b). Interpret the result in (a) in terms of biological effectiveness of the antifungal agent.
- 1(c). Calculate the percentage spore germination, if the number of germinated spores is 10×10^2 cfu/ml and total number of spores is 20×10^4 cfu/ml
2. Discuss the factors that affect the microbroth dilution assay.
3. How does the physiology of microorganisms affect their response to antimicrobial agents?