FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
DEPARTMENT OF MICROBIOLOGY
SECOND SEMESTER EXAMINATION, 2017/2018 SESSION

COURSE CODE: MCB 525 (3 UNITS)
COURSE TITLE: PHARMACEUTICAL MICROBIOLOGY
Instruction: **Answer five questions in all. Attempt at least two questions from each section**

Time: **$2^{1}/_{2}$ Hours**

SECTION A

1(a). Describe the following terms:
- i. Antimicrobial agents
- ii. Antiseptics
- iii. Disinfectants
- iv. Chemotherapeutic agents

1(b). Enumerate some common preservatives added to processed foods

2(a). Outline six (6) common antiseptics/disinfectants stating their actions and uses

2(b). Define antibiotics and categorize them based on types

3(a) List five (5) forms of orthodox and herbal preparations. Also indicate five (5) ways of administering orthodox and herbal preparations.

3(b) Draw the skeletal representation of nalidixic acid

4(a) Explain inherent (natural) resistance and acquired resistance.

4(b). Discuss in detail vertical evolution and horizontal gene transmission

SECTION B

5(a) Differentiate between broad spectrum, narrow spectrum and limited spectrum

5(b) From the patient point of view, the most important property of an antimicrobial agent is its selective toxicity. Explain.

6(a) Give examples, biological source and mode of action of the following classes of antibiotics

i. ß-lactam antibiotics
ii. Aminoglycosides
iii. Glycopeptides
iv. Macrolides
v. Flouroquinones

6(b). Outline antibiotic susceptibility testing materials and explain any two.

6(c). What are the mechanisms of action of the following phytochemicals found in plants?

i. Quinones
ii. Lectins and polypeptides
iii. Glycosides
iv. Saponins
v. Steroids

7(a). Differentiate between quality control, quality assurance and quality variation

7(b) Write short notes on the following

i. Packaging control
ii. Production procedure control
iii. Distribution control
iv. Batch production record
v. Master formula record
vi. Manufacturing practice control

7(c). Enumerate the factors that determine the rate of degradation of active ingredients in pharmaceutical products.