



**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF MICROBIOLOGY**

SECOND SEMESTER EXAMINATION 2013/2014 SESSION

COURSE CODE: MCB 324

COURSE TITLE: MICROBIOLOGICAL TECHNIQUES (3 UNITS)

CLASS: 300 LEVELS

Instruction: Answer FOUR Questions. At least ONE from each section

Time: 2 hrs

SECTION A

- 1(a). Enumerate the precautions to be taken during pour plate technique in the laboratory
- 1(b). Distinguish between selective and enrichment media culture

- 2(a). (i). What is an aseptic technique? Describe five (5) of such techniques often used in the laboratory
(ii). Calculate the viable count of a sample of cough syrup submitted to the laboratory for analysis if 70 and 74 colonies were counted in a duplicate plating when 0.1ml of 10^{-5} dilution was plated on plate count agar.

3. Distinguish between a synthetic and a non-synthetic medium

- 4(a). (i). Enumerate the cultural characteristics often used as additional aid for bacterial identification on agar medium
(ii). Write a short note on streak plate method
- 4(b). Describe lyophilization as a method of culture preservation

SECTION B

- 1(a). State the methods involved in the preparation of buffer solutions
- 1(b). What technique would ensure the best results in the collection and examination of serum samples from convalescent patients?

- 2(a). Mention Five characteristics inimical to abstract writing
- 2(b). Advance reasons behind the practice of rapid culturing of cerebrospinal fluid specimens

SECTION C

1. (i). Define bacteriology and list the various shapes of bacteria with examples.
(ii). With the aid of a well labeled diagram, describe a bacterial cell
(iii). List the various types of microorganisms and their characteristics.

2. (i). Explain bacterial associations with other organisms in form of predators, Mutualists and pathogens. Give specific examples for each.
(ii). What is serology? Explain briefly serological surveys