



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

FIRST SEMESTER EXAMINATION 2015/2016 SESSION

COURSE CODE: MCB 516

COURSE TITLE: INTRODUCTORY BIOTECHNOLOGY (3 UNITS)

CLASS: 500 LEVEL

TIME: 2 HOURS

Instruction: Attempt 2 questions in each section

SECTION A

- Define the term “biotechnology”
 - Explain the techniques of enzyme immobilization
 - What are the salient features of enzyme immobilization?
- “Product recovery is often a major problem in industrial biotechnology”. Explain ways in which this can be overcome in ethanol recovery.
- Discuss the application of Biotechnology in agriculture, food and industry

SECTION B

- Mention ten different modes that could be adopted by bacteria for the metabolism of substrates
 - Outline the procedures of strain improvement
 - What is the importance of strain improvement?
- Explain the following terms:
 - In-silico simulation
 - Auxotrophic mutants
 - Transcriptomics
 - Acetogenesis
 - Methylotrophy
- Contrast between primary and secondary metabolites
 - Give five examples of secondary metabolites
 - Explain ‘Process operation’ as it applies to biotechnological processes