



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA

DEPARTMENT OF MICROBIOLOGY

FIRST SEMESTER EXAMINATION, 2017/2018 SESSION

COURSE: INTRODUCTION TO BIOTECHNOLOGY (MCB 516) 2 UNITS

INSTRUCTIONS: Answer **two Questions** in section A and **only one** in section B.

Time Allowed: 1¹/₂ Hours

SECTION A

1. (a) Define biological and physiological processes and list 5 of such processes in each case. (8 marks)
(b) What is the relevance of methylisobutylketone in antibiotic production? (2 marks)
(c) When is an azeotrope recognised in product recovery? (2 marks)
2. (a) What is enzyme immobilization and why is it important in biotechnology? (5 marks)
(b) Describe the methods used to break up cells in order to extract its content. (7 marks)
3. Outline how biotechnology has been applied to human endeavours. (12 marks)

SECTION B

4. (a) Define biotechnology (2 marks).
(b) Write short notes on the following:
 - (i) Blue biotechnology
 - (ii) Green biotechnology
 - (iii) Red biotechnology
 - (iv) White biotechnology (10 marks).
5. (a) List the 3 basic steps use to genetically modify an organism. (6 marks).
(b) Mention the key tools of recombinant DNA technology. (6 marks).