FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
DEPARTMENT OF MICROBIOLOGY
SECOND SEMESTER EXAMINATION,
2022/2023 ACADEMIC SESSION

COURSE TITLE: FERMENTATION TECHNOLOGY

COURSE CODE: MCB512 **UNIT: 3 UNITS**

INSTRUCTIONS: Answer **two** (2) questions from each section. **Question 1** is compulsory

Time Allowed: 2hrs 30mins

SECTION A

1(a) **i.** Describe the production of beer from a named grain
ii. Outline the steps involved in alcohol production from a named substrate
iii. Explain the production of vinegar from a fruit
iv. State the processes involved in wine production
v. Explain in detail the production of yoghurt

(b) Give ten (10) examples of fermented foods

2(a). Define fermentation
2**(b).** List four (4) types of fermentation and explain any two (2).

3(a) **i.** What is fermentation medium?
ii. Name two (2) types of industrial fermentation media.

3(b) State five (5) benefits of fermented foods

SECTION B

4(a). **i.** Define Cell Disruption
ii. Explain two (2) methods each of chemical and mechanical cell disruption.
4(b). State the criteria that determines the choice of product recovery and purification processes.

5. Discuss the processes involved in product purification

6(a). Filtration is a process of product recovery. Discuss with examples
6(b). Write short notes on:
(i) Secondary effluent treatment
(ii) Decanter centrifuge
(iii) Precipitation

SECTION C

7. Discuss 5 fundamental components that contribute to the success and diversity of any fermentation process.

8 (a). Outline the different modes of fermentation.
8(b). Briefly explain batch fermentation highlighting its advantages and shortcomings.

9(a). Succinctly explain any four (4) factors to be considered when designing a fermenter.
9(b). State 4 basic functions of a fermenter
9**(c).** Outline the different kinds of fermenter