



UNIVERSITI KUALA LUMPUR
MALAYSIAN INSTITUTE OF CHEMICAL AND BIO-ENGINEERING TECHNOLOGY

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : CFD20103
COURSE TITLE : FOOD PROCESSING TECHNOLOGY
PROGRAMME NAME : DIPLOMA IN CHEMICAL ENGINEERING TECHNOLOGY (FOOD)
DATE : 24 JANUARY 2026
TIME : 9:00AM - 12:00PM
DURATION : 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Please read the instructions given in the question paper CAREFULLY.
2. This question paper is printed on both sides of the paper.
3. This question paper consist of TWO sections.
4. Section A consist total of 60 marks. Answer ALL questions.
5. Section B consist of three questions. Answer TWO (2) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Refer to the attached Formula/ Appendies. ☐ Tick if applicable

THERE ARE 6 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 60 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

- (a) Define food processing and preservation technology.
(4 marks)
- (b) Assess **THREE (3)** importance of good food processing to food industry and society.
(3 marks)
- (c) Assess **TWO (2)** suitable food processing and preservation methods for the following foods:
i. Milk
ii. Fruits
iii. Fish
iv. Cooked food
(8 marks)

Question 2

- (a) A vegetable processing unit plans to freeze spinach for long-term storage.
- Assess the blanching process required prior to freezing spinach.
 - Identify the problems that may occur if blanching is not properly carried out.
- (5 marks)
- (b) Explain why proper mixing is essential in food processing industries and identify problems may arise due to improper mixing.
- (4 marks)
- (c) Explain **THREE (3)** different types of mixing used in food processing with suitable examples.
- (6 marks)

Question 3

- (a) Explain the principle of evaporation in food processing and give **TWO (2)** examples of concentrated foods.
- (5 marks)
- (b) A food industry wants to store milk at ambient temperature. Find a suitable preservation method with justification.
- (4 marks)
- (c) Define food irradiation and assess its applications in the food industry.
- (6 marks)

Question 4

- (a) Define a refrigerant and its role in a refrigeration system.
(4 marks)
- (b) Find **FIVE (5)** important characteristics of an ideal refrigerant.
(5 marks)
- (c) Interpret freezing injury in foods and identify **TWO (2)** negative effects on food quality.
(6 marks)

SECTION B (Total: 40 marks)

Answer TWO (2) questions only.

Please use the answer booklet provided.

Question 1

(a) Discuss fermentation process in food processing. In your answer, include:

- i. Definition and principle of fermentation
- ii. Role of microorganisms
- iii. Benefits of fermentation in foods
- iv. Applications of fermentation in the food industry

(10 marks)

(b) Explain spray drying as a food processing and preservation method. In your answer, include:

- i. Definition and principle of spray drying
- ii. Equipment used and working process
- iii. Advantages and limitations
- iv. Applications in the food industry

(10 marks)

Question 2

Examine extrusion processing in food technology. In your answer, include:

- i. Definition and principle of extrusion
- ii. Equipment used and working process
- iii. Advantages and limitations
- iv. Applications in the food industry

(20 marks)

Question 3

Assess aseptic processing and packaging system in food industry. In your answer, include:

- i. Definition and principle
- ii. Diagram and Steps in Aseptic Processing and Packaging System
- iii. Aseptic packaging materials (Tetra Pak)
- iv. Advantages in food industry

(20 marks)

END OF EXAMINATION PAPER