



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

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : CFB20703
COURSE TITLE : FOOD CHEMISTRY
PROGRAMME NAME : BACHELOR OF CHEMICAL ENGINEERING TECHNOLOGY (FOOD)
WITH HONOURS
DATE : 31 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. Answer ALL questions for Section A.
5. Section B consist of four questions. Answer THREE (3) questions only.
6. Please write your answer on the answer booklet provided.
7. Please answer all questions in English only.
8. Please answer MCQ/EMQ questions using OMR sheet. ☐ *Tick if applicable*
9. Refer to the attached Formula/ Appendies. ☐ *Tick if applicable*

THERE ARE 3 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

Demonstrate the impact of water activity on both the shelf life of foods and the growth of microorganisms.

(10 marks)

Question 2

Examine the structural features and classification of carbohydrates, and provide examples along with their functions in food.

(10 marks)

Question 3

Demonstrate the various functional properties of proteins within food systems.

(10 marks)

Question 4

Investigate the classification of food enzymes and their roles in processing, and describe any TWO (2) practical applications.

(10 marks)

SECTION B (Total: 60 marks)

Answer THREE (3) questions only.

Please use the answer booklet provided.

Question 1

Explain the concept of dispersion systems in foods. Classify food dispersions according to phase distribution and particle size, and discuss the functional role of each type in food formulation with relevant examples from commercial food products.

(20 marks)

Question 2

Investigate the significance of the Maillard reaction in food processing, covering its mechanism, influencing factors, applications in foods, and associated drawbacks.

(20 marks)

Question 3

Investigate the role of myoglobin oxidation in meat, its effects on quality, and strategies to effectively control it.

(20 marks)

Question 4

Distinguish the importance of vitamin E in protecting lipids from autoxidation.

(20 marks)

END OF EXAMINATION PAPER