



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

FINAL EXAMINATION
OCTOBER 2025 SEMESTER

COURSE CODE : CQB 20303
COURSE TITLE : SUPPLY CHAIN MANAGEMENT SYSTEM
PROGRAMME NAME : BACHELOR OF FOOD SAFETY AND QUALITY TECHNOLOGY WITH HONOURS
DATE : 02 FEBRUARY 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 ONE sections.
4. Section A consist of five questions. Answer FOUR (4) questions only.
5. Please write your answer on the answer booklet provided.
6. Please answer all questions in English only.
7. Refer to the attached Formula/ Appendies. ☐ Tick if applicable

THERE ARE 6 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 100 marks)

Answer FOUR (4) questions.

Please use the answer booklet provided.

Question 1

A food company imports frozen fish harvested from international waters, sends them overseas for processing to reduce operational costs, and distributes the final products to local and global retail markets. Recently, the company has faced climate-related disruptions in fish supply, rising logistics costs, stricter food safety regulations, and increasing consumer demand for sustainable and ethically sourced food products. These challenges have raised concerns about supply chain efficiency, risks, and long-term competitiveness. As a supply chain analyst, you are required to evaluate the company's food supply chain practices based on the scenario above.

- (a) Compare between a food supply chain and a food value chain, using one relevant example from the scenario to support your differentiation.

(8 marks)

- (b) Evaluate the key stages of the food supply chain involved in this company's operations, from production to consumption, and assess their significance in ensuring food quality and safety

(10 marks)

- (c) Evaluate the environmental, economic, and regulatory factors affecting the performance of the company's food supply chain as described in the scenario.

(7 marks)

Question 2

A medium-sized food company produces ready-to-eat vegetable-based meals for both physical supermarkets and online grocery platforms. Raw materials are sourced from local and regional farmers, processed at a centralized manufacturing facility, packaged for extended shelf life, and distributed through distributors to retail stores and e-commerce fulfilment centres.

Recently, the company has experienced instability in raw material supply due to climate variability, increased production and logistics costs, stricter food safety and traceability requirements, and changes in consumer purchasing behaviour toward convenience and online shopping. Management is reviewing its end-to-end food system to improve performance, safety, and long-term competitiveness.

- (a) Evaluate the role of **FIVE (5)** key actors in food production in ensuring a reliable and sustainable supply of raw materials for the company.

(10 marks)

- (b) Determine the challenges in food production faced by the company that may affect downstream manufacturing and supply chain continuity.

(5 marks)

- (c) Discuss the way food manufacturing practices, including processing, packaging, and inventory management, affect food safety, shelf life, and operational efficiency.

(5 marks)

- (d) Explain the effectiveness of the company's retail and distribution strategies in responding to changing consumer behaviour and market demands.

(5 marks)

Question 3

A frozen food manufacturer distributes chilled and frozen products from its processing plant to supermarkets, convenience stores, and online grocery fulfilment centres across Malaysia. The company handles inbound transportation of raw materials, cold storage, inventory holding, order fulfilment, and outbound distribution to retailers.

Recently, the company has experienced rising transportation costs, frequent delivery delays, temperature deviations during transit, and increased pressure from retailers to improve service reliability while controlling logistics costs. Management is reviewing its logistics strategy to improve performance, efficiency, and food quality across the supply chain.

- (a) Discuss the importance of **FIVE (5)** key logistics functions in the food supply chain in ensuring product quality, service reliability, and cost efficiency for the company.

(10 marks)

- (b) Explain the suitability of outsourcing logistics activities to third-party logistics providers (3PLs) compared to managing logistics in-house for this company.

(5 marks)

- (c) Determine the trade-offs in logistics decision-making that the company must consider between cost, speed, service level, and food quality.

(5 marks)

- (d) Evaluate the role of logistics technology in monitoring and control, particularly in managing cold chain integrity, inventory visibility, and delivery performance.

(5 marks)

Question 4

A medium-sized food manufacturing company supplies ready-to-cook meals to supermarkets and foodservice outlets. The company sources raw ingredients such as vegetables, meat, spices, and packaging materials from both local and international suppliers. Recently, the company has faced issues related to inconsistent supplier performance, fluctuating ingredient prices, supply disruption risks, and increasing pressure to adopt sustainable procurement practices.

Management is reviewing its sourcing, purchasing, and procurement strategies to ensure supply continuity, cost control, and long-term sustainability.

- (a) Explain the suitability of **FOUR (4)** different sourcing types for managing supply risk and cost in the company's operations.

(8 marks)

- (b) Interpret the key differences between sourcing and purchasing in supporting effective procurement activities for the company.

(3 marks)

- (c) Discuss the approach of Kraljic Purchasing Matrix that can be applied to manage different categories of food ingredients and packaging materials used by the company.

(8 marks)

- (d) Evaluate the importance of sustainable procurement practices in strengthening supplier relationships and long-term supply chain performance.

(6 marks)

Question 5

A food company distributes fresh, chilled, and processed food products to supermarkets and online platforms. Recently, the company experienced food safety complaints, delayed recalls, high post-harvest losses, and low inventory visibility across production, processing, packaging, and logistics stages. To address these challenges, management is considering adopting advanced food supply chain technologies.

- (a) Determine the role of traceability technology in improving food safety, recall efficiency, and consumer trust in the company's food supply chain.

(7 marks)

- (b) Evaluate the effectiveness of RFID and barcoding technologies in enhancing inventory management and product tracking across the food supply chain.

(6 marks)

- (c) Discuss the way technology trends in food production, processing, and packaging can reduce post-harvest losses and improve food quality.

(6 marks)

- (d) Explain the impact of digital technologies in food logistics on cold chain management, supply chain visibility, and service efficiency.

(6 marks)

END OF EXAMINATION PAPER