



UNIVERSITI KUALA LUMPUR
MALAYSIA ITALY DESIGN INSTITUTE

FINAL EXAMINATION
MARCH 2026 SEMESTER

COURSE CODE : PXB 30304
COURSE TITLE : LOGISTICS AND SUPPLY CHAIN
PROGRAMME NAME : BACHELOR OF TECHNOLOGY MANAGEMENT (HONOURS)
DATE : 24 JUNE 2026
TIME : 9:00AM - 11:30AM
DURATION : 2 HOURS 30 MINUTES

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/ Appendices. ☐ *Tick if applicable*

THERE ARE 6 PAGES OF QUESTIONS INCLUDING THIS PAGE

SECTION A (Total: 40 marks)

Answer ALL questions.

Please use the answer booklet provided.

Question 1

Explain the purpose of International Organization for Standardization ISO 9000 and ISO 14000 standards. Also, describe how implementing these standards can improve both quality management and environmental performance in an organization.

(10 marks)

Question 2

Explain the differences between insourcing, outsourcing, and co-sourcing in an organization. Justify your answer with suitable examples.

(10 marks)

Question 3

Explain the three levels of operations planning (APP, MPS, and MRP) and how they differ in terms of time horizon and purpose.

(10 marks)

Question 4

Describe the ABC Inventory Control System and RFID technology. Explain how both help in improving inventory management.

(10 marks)

SECTION B (Total: 60 marks)

Answer **THREE (3)** questions only.

Please use the answer booklet provided.

Question 1**Case Study: Toyota Motor Corporation**

Toyota Motor Corporation previously used a traditional purchasing process to buy car parts from suppliers. In traditional purchasing, employees prepared purchase orders manually, contacted suppliers by phone or fax, and recorded transactions using paper documents. This process took more time, involved a lot of paperwork, and sometimes caused delays or mistakes in ordering materials.

To improve efficiency, Toyota changed to an e-procurement system. In e-procurement, purchasing activities are done online through a computer system. Employees can create digital purchase orders, suppliers receive orders instantly, and invoices are sent electronically. The system also helps managers track orders and monitor company spending in real time.

By using e-procurement, Toyota reduced paperwork, saved time, and improved communication with suppliers. Compared to traditional purchasing, the e-procurement process is faster, more accurate, and easier to manage.

- (a) Explain the concept of traditional purchasing and describe **FIVE (5)** characteristics of the traditional purchasing process in an organization.

(10 marks)

- (b) Describe the meaning of e-procurement and explain **FIVE (5)** advantages of using e-procurement systems in business operations.

(10 marks)

Question 2**Case Study: Modes of Transportation**

A Malaysian e-commerce logistics company, **FastTrack Express**, operates a nationwide delivery network linking Kuala Lumpur with major cities such as Penang, Johor Bahru, and Kota Kinabalu. As online shopping demand increased, the company relied mainly on road transport for all deliveries, but this became inefficient for long-distance routes due to traffic congestion, high fuel costs, and delays.

To improve performance, FastTrack introduced multimodal transportation. Rail transport was used for long-distance bulk shipments within Peninsular Malaysia to reduce cost and improve reliability. Air transport was adopted for urgent and high-value deliveries to East Malaysia, while water transport handled large-volume, non-urgent goods between Peninsular and East Malaysia due to lower cost.

At the regional level, road transport remained essential for last-mile delivery using vans and motorcycles. However, managing multiple transport modes created coordination challenges at transfer points, leading the company to adopt an integrated logistics system to improve scheduling, tracking, and overall delivery efficiency.

- (a) Discuss how the use of rail, air, water, and road transport in FastTrack Express contributes to cost efficiency and delivery performance.

(10 marks)

- (b) Determine the operational challenges faced when integrating multiple transportation modes in FastTrack Express's logistics system.

(10 marks)

Question 3

Case Study: Grab Holdings, Outsourcing Decision in the Food Delivery Industry

Grab Holdings expanded its food delivery service, GrabFood, to meet the growing demand for convenient meals in urban areas. Many working adults in cities such as Kuala Lumpur preferred buying meals from restaurants through delivery apps rather than cooking at home. Customers considered factors such as time savings, convenience, and wider food choices when making their “Buy” decision. Restaurants also benefited because they could reach more customers without opening additional branches.

However, some consumers continued to prepare meals at home despite the popularity of food delivery services. Rising food prices and delivery charges encouraged families to adopt the “Make” decision to reduce daily expenses. In addition, health-conscious consumers preferred home-cooked meals because they could control ingredients, portion sizes, and food hygiene. During the COVID-19 pandemic, many households also improved their cooking skills and became more comfortable preparing meals themselves.

This situation demonstrates the concept of **Make vs. Buy decision-making** in operations and outsourcing strategy. Consumers evaluate factors such as cost, quality, convenience, time, and personal preference before deciding whether to outsource meal preparation to restaurants or perform the activity themselves at home.

- (a) Using the concept of outsourcing decision (Make vs. Buy), analyze why a person may choose to buy a meal at a restaurant or make a meal at home. A person decides to buy dinner from a restaurant instead of cooking at home.

Using the Make vs. Buy decision concept, analyze FOUR (4) reasons that influence this decision.

(10 marks)

- (b) Another person prefers to prepare meals at home instead of purchasing food from restaurants.

Analyze FOUR(4) reasons why the person chooses the “Make” decision rather than the “Buy” decision.

(10 marks)

Question 4**Case Study: 7Rs of Logistics in Action – Pharmaceutical Distribution Network**

A large pharmaceutical distributor operating across Southeast Asia faced persistent challenges in meeting hospital demand for temperature-sensitive vaccines and critical medicines. Despite having adequate total inventory, hospitals frequently reported stockouts in rural areas and occasional spoilage due to improper cold-chain handling. Additionally, delivery delays during monsoon seasons led to missed vaccination schedules, raising concerns from public health authorities. The company's logistics system struggled with balancing cost efficiency and service reliability, especially in last-mile delivery to remote regions.

To address these issues, the company redesigned its supply chain using the "7Rs of Logistics" framework. It implemented AI-based demand forecasting to improve inventory allocation (Right Quantity) and introduced RFID-enabled tracking to ensure product integrity (Right Condition). Regional micro-fulfillment centers were established closer to hospitals (Right Place), while route optimization software reduced transit delays (Right Time). The firm also trained logistics partners on cold-chain compliance and introduced customer segmentation for priority deliveries (Right Customer), while renegotiating supplier contracts to optimize pricing structures (Right Price).

Within one year, vaccine wastage dropped significantly, delivery punctuality improved from 78% to 96%, and customer satisfaction scores increased across public and private hospitals. The case demonstrated that integrating the 7Rs framework not only improves operational efficiency but also enhances healthcare outcomes through better availability of critical medicines.

- (a) Analyze how the implementation of "Right Quantity" and "Right Condition" contributed to solving the company's logistics problems.

(10 marks)

- (b) Determine how improving "Right Place" and "Right Time" affected the efficiency and reliability of the pharmaceutical supply chain.

(10 marks)

END OF EXAMINATION PAPER