



UTHM

Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER I
SESSION 2019/2020**

COURSE NAME : LOGISTICS MANAGEMENT
COURSE CODE : BPB 44903
PROGRAMME CODE : BPA
EXAMINATION DATE : DECEMBER 2019 / JANUARY 2020
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS

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THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

Q1 (a) Define:

- (i) P-time
- (ii) D-time

(5 marks)

(b) Discuss the lead-time frontier concept in logistics.

(5 marks)

(c) Differences between P-times and D-times are referred to as the lead-time gap, which help companies to manage timelines and performance in the logistics pipeline.

Explain **TWO (2)** time-based strategies that a manufacturing company can use to cope with situations when P-time is greater than D-time, with examples.

(10 marks)

Q2 (a) Explain **TWO (2)** roles of transportation in logistics management, with examples.

(5 marks)

(b) IOI Loders Croklaan is a manufacturer of fractionated oils and blends used in processed food industry, such as bakery, confectionery, frying and margarine. The company is planning to build a new processing plant in China that will supply customers in East Asian and European countries. The logistics department is tasked to develop the company's transportation and modal selection strategy to supply the markets. It has proposed for the company to use intermodal transportation.

(i) Justify **THREE (3)** primary benefits of using intermodal to the top management of IOI Loders Croklaan.

(15 marks)

(iii) Compare the modal capabilities of **THREE (3)** transport modes.

(15 marks)

Q3 The number of distribution facilities needed for a supply chain requires the evaluation of cost trade-offs with four functional areas.

Examine the distribution cost trade-offs, with an illustration of the trade-off curves.

(15 marks)

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Q4 (a) Explain **FOUR (4)** generic warehouse functions, with an illustration. (10 marks)

(b) An automated packing machine designed to fold and seal the tops of cardboard boxes is employed at the end of a picking line, before the boxes are transferred to the dispatch area in a national distribution center. The packing machine can fold and seal a variety of box sizes, one at a time at an average time of 6 seconds per box (i.e. 10 boxes per minute, or 600 boxes an hour). The distribution center operates 24 hours a day, seven days a week (i.e. 168 hours per week). Hence, the design capacity of the process is 100,800 boxes per week. Referring to last week's production records, **Table Q3** shows the time lost due to the stoppages.

Table Q3: Lost time due to stoppage

	Non-productive time (hrs)
Planned occurrences	
Machine setups	21
Preventive maintenance	7
Quality control	9
Shift changes	7
Unplanned occurrences	
Machine breakdowns	15
Quality noncompliance analysis	8
Conveyor delays	14

Calculate:

- (i) Effective capacity
- (ii) Actual output
- (iii) Capacity utilization
- (iv) Capacity efficiency

(10 marks)

Q5 Unilever is in the process of improving the sustainability of the logistics operations of its Beauty and Personal Care Division. The company is considering two strategies, namely reverse logistics and closed-loop logistics systems.

Choose the best strategy that Unilever should use by comparing reverse and closed-loop logistics system.

(10 marks)

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-END OF QUESTIONS-