



**UTHM**

Universiti Tun Hussein Onn Malaysia

**UNIVERSITI TUN HUSSEIN ONN MALAYSIA**

**FINAL EXAMINATION  
SEMESTER II  
SESSION 2013/2014**

COURSE NAME : SUPPLY CHAIN MANAGEMENT  
COURSE CODE : BPB 32303  
PROGRAMME : 2 BPB / 3 BPB  
EXAMINATION DATE : JUNE 2014  
DURATION : 3 HOURS  
INSTRUCTION : ANSWER ALL QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FOUR (4)** PAGES

**Q1** The ZazFib is a manufacturer of synthetic fibers used for making furniture upholstery. ZazFib manufactures fiber in 50 colours on one line. When changing over from one color to the next, part of the line has to be cleaned, leading to a loss of material. Each changeover costs RM200 in lost material and changeover manpower. Assume that each changeover requires the line to shut down for 0.5hour. When it is running, the line produces fiber at the rate of RM100 per hour.

The fibers sold by ZazFib are divided into three categories which are 5 fast-moving colours that average sales of 30,000 kilogram colour per year and 10 medium-moving colours that average sales of 12,000 kilogram per colour per year. The remaining are slow-moving products and average sales of 2,400 kilogram per year. Each kilogram of fiber costs RM5 and ZazFib has a holding cost of 20 percent.

- (a) Calculate batch size for each categories:
- (i) Fast-moving colour (2 marks)
  - (ii) Medium-moving colour (2 marks)
  - (iii) Slow-moving colour (2 marks)
- (b) Analyze:
- (i) Annual setup cost for each categories of colour. (6 marks)
  - (ii) Annual holding cost for each categories of colour. (6 marks)
- (c) Calculate:
- (i) Total annual cost for all products of each categories of colour. (9 marks)
  - (ii) Total annual cost for ZazFib across all products. (3 marks)

- Q2** (a) Zahra Pharmacy replenishes one of its best-selling medicines using a continuous review policy. Daily demand for the medicine is normally distributed, with a mean of 300 and a standard deviation of 100. The wholesaler can process a replenishment request in two days. The current replenishment policy is to order 1,500 units when there are 750 units on hand.
- Calculate:
- (i) Safety inventory. (5 marks)
  - (ii) Cycle inventory. (3 marks)
  - (iii) Average inventory. (4 marks)
  - (iv) Average flow time. (4 marks)
- (b) Compare **THREE (3)** different measures of product availability. (9 marks)
- Q3** (a) Discuss the strengths and weaknesses of the following modes of transportation:
- (i) Package carriers. (4 marks)
  - (ii) Rail. (4 marks)
- (b) The online grocer Peapod uses milk runs from distribution centers (DCs) when making customer deliveries to help reduce transportation costs for small shipments to be delivered to homes.
- Sketch transportation network for Peapod. (3 marks)
- (c) Discuss **TWO (2)** main risks to be considered in the transportation. (4 marks)

- Q4** (a) Describe role of sourcing in a supply chain. (2 marks)
- (b) Outline **THREE (3)** mechanisms that third parties can use to increase the supply chain surplus. (9 marks)
- (b) Discuss **TWO (2)** benefits of effective sourcing decisions. (4 marks)
- Q5** (a) Demonstrate **THREE (3)** important trends will impact information technology (IT) in the supply chain. (9 marks)
- (b) Discuss **THREE (3)** keymetrics for sustainability in a supply chain. (6 marks)

**-END OF QUESTION-**

