UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

FINAL EXAMINATION
SEMESTER II
SESSION 2013/2014

COURSE NAME	:	PRODUCTION AND OPERATION MANAGEMENT
COURSE CODE	:	BPB 31103
PROGRAMME	:	3 BPB
EXAMINATION DATE	:	JUNE 2014
DURATION	:	2 HOURS 30 MINUTES
INSTRUCTION	:	ANSWER **ALL** QUESTIONS

THIS QUESTION PAPER CONSISTS OF **FIVE (5)** PAGES

Q1 (a) Discuss **THREE (3)** chase strategy options.

(6 marks)

(b) Based on the **Q1**(a).
Explain **ONE (1)** advantage and disadvantage of each options discussed.

(6 marks)

(c) ZH company has developed the following supply, demand, cost and inventory data.

Table Q1

Supply available:				
Period	Regular time	Overtime	Subcontract	Demand Forecast
1	30	10	5	40
2	35	12	5	50
3	30	10	5	40

Initial inventory	20 unit
Regular-time cost per unit	RM100
Overtime cost per unit	RM150
Subcontract cost per unit	RM200
Carrying cost per unit per month	RM4

(i) Prepare a transportation schedule

(3 marks)

(ii) Calculate production capacity to meet demand at a minimum cost using transportation method.

(8 marks)

(iii) Determine the production cost.

(2 marks)

Q2   (a)   Define the meaning of Assignment Method.

(4 marks)

(b)   Discuss **TWO (2)** techniques of demand management in services scheduling.

(6 marks)

(c)   MH marketing Sdn Bhd, headquatered in Kuala Lumpur, plan to assign three new Marketing Manager Ali, Asiah and Ahmad to regional offices. The cost to transfer these managers are as listed below:

Table Q2

	Johor	Kelantan	Sarawak
Ali	RM800	RM1100	RM2000
Asiah	RM1600	RM600	RM1300
Ahmad	RM500	RM1000	RM1400

(i)   Propose assignment office to each manager using an assignment method.

(10 marks)

(ii)   Compute total cost of assignment.

(5 marks)

Q3 Perdana Store has its own manufacturing facility in which it produces Ironcoat paint. The ordering cost is RM150, carrying cost is RM0.75. The store receives 10,000 gallons orders of Ironcoat paint per year. The facility operates 311 days a year and produces 150 gallons of paint per day.

(a) Determine the optimal order size.

(5 marks)

(b) Calculate total inventory cost.

(4 marks)

(c) Calculate the length of time to receive an order.

(4 marks)

(d) Determine the number of order per year.

(4 marks)

(e) Determine the maximum inventory level.

(4 marks)

(f) Sketch the Production Order Quantity Model for Perdana Store.

(4 marks)

Q4 Zaman Oil & Gas Company is a company which builds offshore oil platforms. Recently, it has been experiencing problems with its profiling machine, a computer-driven device that cuts the ends of pipe so that it can be welded to another pipe, as shown in **Table Q4**.

Table Q4

Number of breakdowns	0	1	2	3	4	5
Breakdown frequency	2	2	2	6	7	1

Each time a machine breaks down, the company loses about RM3,000. If the company implements preventive maintenance, it will be able to reduce the number of breakdowns to one per month. Preventive maintenance costs would be RM500 a month.

(a)   Calculate the breakdown ratio frequency.

(5 marks)

(b)   Calculate the expected number of breakdown.

(5 marks)

(c)   Propose to the management the best solution to overcome the breakdown problems.

(15 marks)

- **END OF QUESTION** -