

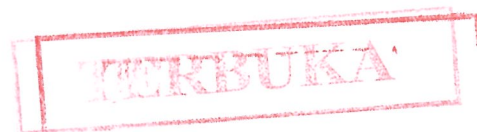
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UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2017/2018**

COURSE NAME : PRODUCTION AND OPERATION
COSTING
COURSE CODE : BPC 32603
PROGRAMME CODE : BPB
EXAMINATION DATE : JUNE / JULY 2018
DURATION : 2 HOURS 30 MINUTES
INSTRUCTION : ANSWER ALL QUESTIONS



THIS QUESTION PAPER CONSISTS OF **SIX (6)** PAGES

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Q1 Algebra Berhad is involved in the manufacturing of two products, Diamond and Pearl. The information on the two products is given in **Table Q1(i)**.

Table Q1(i): General financial information

	Diamond	Pearl
Expected production	5,000 units	15,000 units
Direct material cost per unit	RM40	RM52
Labour hours	10,000 hours	60,000 hours
Direct Labour per unit	RM40	RM80
Direct labour rate per unit	RM20	RM20

The estimated overhead for the coming year is RM1,050,000. At present, Algebra Berhad absorbs its overhead on the basis of direct labour hours. Recently the company’s products are being challenged by a new competitor offering lower prices, as the company’s new management accountant, you have been asked to look into this matter. After doing a cost analysis, you propose to the management to adopt the activity-based costing method in absorbing overhead to production. From your study, the estimated overheads could be re-analysed into cost pools as in **Table Q1(ii)**.

Table Q1(ii): Cost pools and cost driver information

Cost pool	Cost driver	Total cost (RM)
Order processing	Customer orders	275,000
Machine processing	Machine hours worked	632,000
Product inspection	Inspection hours	143,000
Cost driver volumes for each product		
Cost drivers	Diamond	Pearl
Customer orders	525	475
Machine hours worked	37,600	42,400
Inspection hours	4,800	17,200

- (a) Determine the overhead allocation rate using traditional system. (3 marks)
- (b) Calculate the total cost per unit for each product using traditional method. (6 marks)
- (c) Calculate the total cost per unit for each product using activity-based costing method. (12 marks)
- (d) Explain **TWO (2)** reasons for using activity-based costing method. (4 marks)



- Q2** Perabot Sdn. Bhd. reports the following information for the year ended 31 December 2017 as shown in **Table Q2**.

Table Q2: Financial information of Syarikat Perabot Sdn. Bhd.

	RM
Materials, 1 January 2017	65,000
Materials, 31 December 2017	35,000
Work in process, 1 January 2017	30,000
Work in process, 31 December 2017	24,000
Materials purchased during the year	100,000
Direct labour incurred in production	110,000
Manager's salary	40,000
Indirect labour	24,000
Sales discounts	1,000
Indirect material	15,000
Depreciation on factory equipment	10,000
Office utilities	3,000
Factory supplies and utility costs	10,000
Repairs and maintenance of plant	9,000
Plant insurance	5,000
Selling cost	8,000
Equipment leasing cost	18,000

- (a) Prepare the Statement of Cost of Goods Manufactured for the year ended 31 December 2017.
- (19 marks)
- (b) Explain and give an example for each of the following types of manufacturing costs:
- (i) Direct material cost
 - (ii) Direct labour cost
 - (iii) Factory overhead cost

(6 marks)

- Q3** JomMinum Enterprise is a business specializing in selling soft drink for University sporting events. **Table Q3** shows financial information per game.

Table Q3: Financial analysis per game

Items	RM
Sales price per cup	2.50
Variable expense per cup:	
Commission to organizer	0.60
Soft drink in each cup	0.50
Paper cup	0.20
Fixed expense per game:	
Lease cost of booth	200
Wages of 10 hawkers at RM15	150
Liability insurance	10

Based on the given information:

- (a) Calculate the break-even point in both number of cups sold and sales ringgits. (6 marks)
- (b) Prepare a Cost–Volume–Profit (CVP) graph from zero to 1,000 cups sold by indicating the revenue line, total costs line, profit/loss area and break-even point on the graph. (6 marks)
- (c) Calculate the number of cups that must be sold to earn a monthly profit of RM600 per game. (5 marks)
- (d) Determine the effect on the break-even point if the university decides to double the lease cost. (4 marks)
- (e) Calculate number of cups have to be sold to yield the minimum required RM600 in profits if the university decides to double the lease cost. (4 marks)
- Q4** (a) Tintin Company is trying to decide whether it should rent new equipment and continue to make its subassemblies internally, or whether it should discontinue production of its subassemblies and purchase them from an outside supplier. The alternatives follow:

Alternative 1: Rent new equipment for producing the subassemblies for RM60,000 per year.

Alternative 2: Purchase assemblies from an outside supplier for RM8 each.



Tinting Company's current costs per unit of producing the subassemblies internally based on 40,000 subassemblies per year are given in **Table Q4(a)**.

Table Q4(a): Financial information of 40,000 subassemblies

	RM
Direct materials	2.75
Direct labour	4.0
Variable overhead	0.60
Fixed overhead:	
Supervision	0.75
Depreciation	0.90
General company overhead	2.0

The new equipment would reduce direct labor costs and variable overhead costs by 25%. Supervision cost and direct materials cost per unit would not be affected by the new equipment. The new equipment's capacity would be 60,000 subassemblies per year. The total general company overhead would be unaffected by this decision.

- (i) Determine which course of action would you recommend to Tintin Company assuming that 40,000 subassemblies are needed each year. (5 marks)
- (ii) Determine if your recommendation in **Q(4)(i)** be the same if the company's needs were 60,000 subassemblies per year. (4 marks)
- (iii) Recommend **TWO (2)** other factors that the company can consider before making a decision. (4 marks)
- (b) Rara Product, manufactures a chopping board that requires an expensive hardwood. During recent month, the company manufactured 4,000 chopping boards using 11,000 board feet of hardwood. The hardwood cost the company RM18,700. The company's standards for one chopping board are 2.5 board feet of hardwood, at a cost of RM1.80 per board foot.

Calculate:

- (i) Cost for wood should have been incurred to make 4,000 chopping blocks. (4 marks)
- (ii) A material price variance. (4 marks)
- (iii) A materials quantity variance. (4 marks)

- END OF QUESTIONS -

FINAL EXAMINATION

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APPENDIX 1**Formula:**

(Actual quantity purchased x actual price)- (Actual quantity purchased x Standard price)

(Actual direct labors hours worked x actual rate)- (Actual direct labors hours worked x Standard rate)

(Actual direct labors hours worked x Standard rate)- (Standard direct labors hours allowed x Standard rate)

(Actual quantity of materials used x standard price)- (Actual quantity of materials allowed x Standard price)