



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2022/2023**

COURSE NAME : PRODUCTION AND OPERATIONS COSTING

COURSE CODE : BPC 32603

PROGRAMME CODE : BPB / BPP

EXAMINATION DATE : JULY/ AUGUST 2023

DURATION : 2 HOURS AND 30 MINUTES

INSTRUCTION

1. ANSWER **ALL** QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**.
3. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **SEVEN (7)** PAGES

TERBUKA

- Q1 (a)** Homey HomeStore manufactures two types of tables, Ecedalen and Vangstar. The company's simple costing system has two direct cost categories, material and labour, and an indirect cost pool. The simple costing system allocates indirect costs based on machine hours. Currently, the owners of Homey HomeStore are concerned about a decline in market share for their Ecedalen tables, which are normally their biggest seller. The information on the production of Homey Homestore for the last year is as follows:

Table Q1(a): Cost Information

	Ecedalen	Vangstar
Units sold	5,600	3,150
Selling price	RM218	RM350
Direct material cost per unit	RM52.5	RM78.75
Direct manufacturing labor cost per unit	RM28	RM28
Direct manufacturing labor-hours per unit	2.625	3.94
Production runs	70	149
Material moves	126	294
Machine setups	79	272
Machine hours	9,625	7,875
Number of inspections	437.5	262.5

The owners have heard of other companies in the industry that now use an activity-based costing (ABC) system and are curious how an ABC system would affect their product cost decisions. After analysing the pool of indirect costs for Homey HomeStore, the owners identified six activities that generate indirect costs: production planning, material handling, machine set-up, assembly, inspection and marketing. Homey HomeStore has collected the following data on indirect costs activities:

Table Q1(b): Indirect Cost Activities

Activity	Activity cost (RM)	Activity cost driver
Production scheduling	166,250	Production runs
Material handling	78,750	Material moves
Machine setup	43,750	Machine setups
Assembly	105,000	Machine hours
Inspection	14,000	Number of inspections
Marketing		5% of the sales revenue

- (i) Compute the cost of Ecedalen and Vangstar under the simple costing system. (7 marks)
 - (ii) Compute the cost of Ecedalen and Vangstar under an activity-based costing system. (12 marks)
 - (iii) Explain why the cost computed in **Q1(a)(i)** and **Q1(a)(ii)** is different. (4 marks)
- (b) Describe **ONE (1)** benefit of an activity-based costing system. (2 marks)

Q2 Kurung Pahang Enterprise operates a chain of women’s Malay traditional dresses that carry many styles that are sold at the same price. To encourage sales personnel to be aggressive in their sales efforts, the company pays a substantial sales commission on each dress sold. Sales personnel also receive a small basic salary. The dress was sold at RM90 per unit in 2022. Current selling price in 2023 increases by 2 per cent per unit from the last year price. One of Kurung Pahang’s branches; Store 7 is currently selling 5,500 dresses per year. **Table Q2** shows cost and revenue data for Store 7 in 2023.

Table Q2: Financial data for Store 7

Items	RM
Variable expense per dress:	
Operating cost	18.00
Sales commission	8.00
Fixed expense per year:	
Rent	80,000
Advertising	140,000
Salaries	69,520

Kurung Pahang Enterprise has asked you, as a member of its planning group, to assist in some basic analysis of its stores and company policies. Specifically, you are required to:

- (a) Construct a contribution income statement for Store 7, at the present level of sales. (6 marks)
- (b) Calculate the annual break-even point in unit sales and sales ringgits in 2023 for Store 7. (4 marks)
- (c) Prepare a Cost–Volume–Profit graph for Store 7 from zero up to 5,500 dresses sold each year by indicating the revenue line, total costs line, profit/loss area and break-even point on the graph. (6 marks)
- (d) Compute the degree of operating leverage Store 7, for the year 2023 . (2 marks)
- (e) Calculate how much will be the expected net income in 2024 based on answer in **Q2(d)** assuming that the company’s sales will increase by 10% in 2024. (2 marks)
- (f) Discuss **TWO (2)** importances of Cost-Volume-Profit (CVP) analysis. (5 marks)

- Q3 (a)** Heritage Garden manufactures a line of multiple products. Demand for the products is increasing, and management requests assistance from you in determining the best sales and production mix for the coming year. The company has provided the following data in **Table Q3(a)**.

Table Q3(a): Financial information of Heritage Garden products

Product	Demand next year (units)	Selling price per unit (RM)	Direct material per unit (RM)	Direct labour hour per unit (RM)	Direct labour hour per unit (DLH)
Shovel	75,000	33.00	3.50	4.80	0.40
Pot	90,000	25.00	2.30	3.60	0.30
Pruner	75,000	27.00	2.80	4.20	0.35

The following additional information is available:

- The company’s plant has a capacity of 75,000 direct labour-hours per year on a single-shift basis. The company’s present employees and equipment can produce all three products.
 - The direct labour rate of RM 12.00 per hour is expected to remain unchanged during the coming year.
 - Variable overhead costs are RM 4.00 per direct labour-hour.
 - All of the company’s nonmanufacturing costs are fixed.
- (i) Compute variable overhead per unit for each product. (4 marks)
- (ii) Compute contribution margin per unit for each product. (6 marks)
- (iii) Determine the contribution margin per direct labour-hour expended on each product. (3 marks)
- (iv) Calculate the total direct labour-hours of each product that will be required to produce the units estimated to be sold during the coming year. (3 marks)
- (v) Rank the products in order of priority and allocate the 75,000 direct labour-hours of capacity to the three products. (5 marks)
- (b) Heritage Garden Enterprise is considering dropping one of its product lines. Explain costs of the product line that would be relevant and irrelevant to this decision. (4 marks)

- Q4** (a) The marketing department of Nordic Company, has submitted the following sales forecast for the upcoming fiscal year in 2024 as shown in **Table Q4(a)**.

Table Q4(a): Budgeted Sales for 2024

	1st quarter	2nd quarter	3rd quarter	4th quarter
Budgeted unit sales	18,000	17,000	16,000	17,000

The selling price of the company’s product is RM24.00 per unit. Management expects to collect 75% of sales in the quarter in which the sales are made, 20% in the following quarter, and 5% of sales are expected to be uncollectible. The beginning balance of accounts receivable, all of which is expected to be collected in the first quarter is RM68,000.

You are required to prepare:

- (i) The company’s schedule of sales budget. (4 marks)
 - (ii) The company’s schedule of expected cash collections. (5 marks)
- (b) Discuss master budget and its **TWO (2)** main components. (6 marks)
- (c) Suri Company produces a number of products, including a necktie in its factory. The company uses a standard cost system to assist in the control of costs. According to the standards that have been set for the neckties, the factory should work 780 direct labour-hours each month and produce 1,950 neckties. During April, the factory worked only 760 direct labour-hours and produced 2,000 ties using 6,000 yards. At standard, each tie should require 2.8 yards of materials. All of the materials purchased during the month were used in production.

Table Q4(b) shows the standard and actual direct materials’ costs per unit of product.

Table Q4(b): Costs for materials and labour per unit of product

	Standard	Actual
Direct materials per unit of product	RM18.20	RM18.00
Direct labour	RM3.60	RM3.80

- (i) Compare the total cost for materials that should have been incurred to make 2,000 neckties with the actual total cost. (3 marks)
- (ii) Calculate a material price variance. (4 marks)

(iii) Calculate a materials quantity variance.

(3 marks)

- END OF QUESTIONS -

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APPENDIX 1

Formula:

Actual quantity purchased x (Actual price - Standard price)

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

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

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