



UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAMINATION
SEMESTER II
SESSION 2023/2024**

- COURSE NAME : PRODUCTION AND OPERATIONS COSTING
- COURSE CODE : BPC 32603
- PROGRAMME CODE : BPB / BPP
- EXAMINATION DATE : JULY 2024
- DURATION : 3 HOURS
- INSTRUCTION : 1. ANSWER ALL QUESTIONS
2. THIS FINAL EXAMINATION IS CONDUCTED VIA
 Open book
 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 **FOUR (4)** PAGES

Q1 North Sport Enterprise produces backpacks specifically for major sports retailers, who then sell them under their own brand names. The simple costing system allocates indirect costs based on direct labour hours. The managers of North Sport Enterprise are considering using an activity-based costing (ABC) system for two recently completed products: Product 200A and Product 400K. The managers are interested in understanding the effect of an ABC system on their product cost decisions as opposed to the simple costing. After conducting a thorough analysis, the accounting department has identified the overhead expenses and cost drivers related to the two products, as shown in **Table Q1.1**.

Table Q1.1 Production information

Items	200A	400K
Number of units completed	1,600	1000
Number of direct labour hours	300	100
Cost of direct material (RM)	15,000	17,000
Cost of direct labour (RM)	19,000	40,000
Number of setups	48	56
Number of orders	125	150
Number of machine hours	600	500
Estimated total cost driver volume	Estimated quantity	
Number of setups	8,000	
Number of orders	50,000	
Number of machine hours	100,000	
Cost pool by activities	Estimated overhead cost	
Setup costs (RM)	500,000	
Ordering costs (RM)	160,000	
Machine maintenance costs (RM)	300,000	
Total estimated direct labour hours (DLHs)	30,000	

- (a) Determine the total cost per unit for for models 200A and 400K using a simple costing. (6 marks)
- (b) Determine the total cost per unit for for models 200A and 400K using ABC system. (9 marks)
- (c) Compare the overall cost per unit for both models to ascertain whether the products will be undercosted or overcosted when using the simple costing method instead of ABC. (5 marks)
- (d) Differentiate ABC costing method and traditional costing in term of definition, steps and benefits. (6 marks)

- Q2** Smart-Z Cards makes a high-capacity memory card, SZC-100, for use in electronic equipment. Smart-Z's owner, Elly Carrera, started the company because she believed that memory cards would gain widespread acceptance. Elly believed the demand for portable electronics would increase, which in turn would stimulate the demand for memory cards. During the upcoming year, Smart-Z expects to sell 450,000 SZC-100 cards at an average selling price of RM30 per card. Smart-Z's unit variable cost is RM18 per card, and its annual fixed costs equal RM4,800,000.
- (a) Compute Smart-Z's breakeven revenues using the contribution margin ratio approach. (5 marks)
 - (b) Calculate the margin of safety for Smart-Z Cards. (4 marks)
 - (c) Determine how many cards Smart-Z needs to sell to earn an annual after-tax profit of RM1,800,000, assuming Smart-Z pays income taxes equal to 40% of the profit before taxes. (5 marks)
 - (d) Analyse the increase in profit if Smart-Z's marketing manager requests an additional RM750,000 for advertising and promotion, which he believes will increase sales by 100,000 cards, assuming the tax rate is 40%. (7 marks)
 - (e) Explain **THREE (3)** assumptions underlying the cost-volume-profit (CVP) analysis. (6 marks)

- Q3** (a) The Ellen Company is an established business that specialises in the production of chairs. The company expects to produce 25,000 units this year. Currently, Ellen makes the upholstery for the chairs in its factory. Ellen has received an offer from an outside vendor to supply the upholstery for the chairs at RM20 per unit. Assume that if the outside vendor supplies the upholstery, the facility where the upholstery is currently made will remain idle. Under current operations, Ellen Company manufactures all of its upholstery from start to finish. Allocated fixed costs of plant administration, taxes, and insurance charged to the upholstery line total RM80,000 each year. **Table Q3.1** shows the variable costs for the upholstery per unit.

Table Q3.1 Variable costs per unit upholstery

Items	Cost per unit
Direct material (RM)	9
Variable direct manufacturing labor (RM)	4.5
Variable manufacturing overhead (RM)	2
Variable inspection, setup, materials handling (RM)	3.5

Analyse whether Ellen should accept the outside vendor's offer at the anticipated volume of 25,000 chairs. (7 marks)

- (b) In today's extremely competitive industry, manufacturers must carefully plan their pricing strategies. Setting the price too high exposes them to the risk of losing customers to their competitors. Ensuring an optimal product price is critical to the business's survival. To address this issue, an efficient costing mechanism is required.

Examine the differences between cost-based pricing and market-based pricing (target costing) strategies that can be used to assist businesses make more informed pricing decisions in the long run.

(8 marks)

- Q4** (a) Well-managed companies usually implement a proper budgeting cycle throughout the year.

Outline the **THREE (3)** main steps of annual budgeting cycle that companies can follow.
(9 marks)

- (b) The marketing department of Padihijau Company, has submitted the following sales forecast for the upcoming fiscal year in 2025 as shown in **Table Q4.1**.

Table Q4.1 Budgeted sales for 2025

	1st quarter	2nd quarter	3rd quarter	4th quarter
Budgeted unit sales	15,000	15,000	17,000	17,000

Additional information:

- The selling price per unit in 2025 will be RM15.
 - Cost of goods sold is estimated at 70% of total sales revenue from the same quarter.
 - The ending inventory of finished goods should be equal to 40% of the cost of goods sold in the next quarter.
 - The estimated sales for the first quarter of 2026 are expected to reach 17,500 units, with a price of RM16 per unit.
- i. Prepare the company's quarterly sales budget for the year 2025 until the first quarter 2026.
(6 marks)
- ii. Prepare the company's quarterly purchase budget for the year 2025.
(11 marks)
- (c) Distinguish the main reasons of analysing price variances and efficiency variances in the production process.
(6 marks)

- END OF QUESTIONS -