

ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)
ORGANISATION OF ISLAMIC COOPERATION (OIC)

DEPARTMENT OF MECHANICAL AND PRODUCTION ENGINEERING

Mid-Semester Examination

Summer Semester, A.Y. 2021-2022

Course No. IPE 4439

Time : 1½ hours

Course Title: Principles of Economics
and Cost Accounting

Full Marks : 75

There are 3 (Three) Questions. Answers to all the questions are compulsory.
Marks in the margin indicate the full marks.

1. a) Briefly explain how managerial accounting information plays a vital role in basic management activities. (10)
(CO1)
(PO1)
- b) The CFO of a hotel "A" would like a cost formula that relates the hotel maintenance costs for a month to the number of occupancy-days for that month. (10)
(CO1)
(PO1)
Monthly maintenance costs and occupancy-days for the past seven months are shown below:

Month	Occupancy Days	Maintenance
January	5,600	\$7,900
February	7,100	\$8,500
March	5,000	\$7,400
April	6,500	\$8,200
May	7,300	\$9,100
June	8,000	\$9,800
July	6,200	\$7,800

Required:

- i. Use the high-low method to establish the fixed and variable components of maintenance costs.
- ii. Express the fixed and variable components of maintenance costs in the following form,
 $y = a + bx$. (Where, the symbols have their usual meaning)
- c) Show the general classification of manufacturing and non-manufacturing costs. (05)
(CO1)
(PO1)
2. ABC Limited provided the following information for the year ended December 31: (25)
(CO2)
(PO2)
- Costs incurred:**
- | | |
|---|-----------|
| Marketing expense | \$300,000 |
| Direct labour cost | 270,000 |
| Raw material purchases | 396,000 |
| Rent, manufacturing building | 240,000 |
| Indirect labour | 168,900 |
| Sales commissions | 105,000 |
| Utilities, manufacturing | 27,000 |
| Depreciation, manufacturing equipment | 72,000 |

Supplies, manufacturing	2,100
Depreciation, office equipment	24,000
Repairs, manufacturing equipment.	120,000

	Beginning of Year	End of Year
Inventories:		
Raw materials	\$24,000	\$30,000
Work in process	15,000	60,000
Finished goods	210,000	75,000

Required:

- i. Prepare a schedule of cost of goods manufactured.
- ii. Prepare the cost of goods sold section of ABC Limited's income statement for the year.

3. a) Data for XYZ Corporation are shown below:

	Per Unit	Percentage of Sales	(10) (CO3) (PO11)
Selling price	\$90	100%	
Variable expenses	<u>63</u>	<u>70%</u>	
Contribution margin	\$27	30%	

Fixed expenses are \$65,000 per month, and the company is selling 2,750 units per month.

Required:

- i. The marketing manager argues that a \$5,000 increase in the monthly advertising budget would increase monthly sales by \$12,000. Should the advertising budget be increased?
 - ii. Refer to the original data. Management is considering using higher-quality components that would increase the variable cost by \$4 per unit. The marketing manager believes the higher-quality product would increase sales by 20% per month. Should the higher-quality components be used?
- b) "B" Door Company sells pre-hung doors to home builders. The doors are sold for \$60 each. Variable costs are \$42 per door, and fixed costs total \$450,000 per year. The company is currently selling 30,000 doors per year. (15)
(CO3)
(PO11)

Required:

- i. Prepare a contribution format income statement for the company at the current level of sales, and compute the degree of operating leverage.
- ii. Management is confident that the company can sell 37,500 doors next year (an increase of 7,500 doors, or 25%, over current sales). Compute the expected percentage increase in operating income for next year.
- iii. Compute the expected operating income for next year. (Do not prepare an income statement; use the degree of operating leverage to compute your answer.)

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