

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

DEPARTMENT OF BUSINESS AND TECHNOLOGY MANAGEMENT

Semester Final Examination  
Course No. : BTM 4301  
Course Title : Management Accounting

Winter Semester, A. Y. 2022-2023  
Time : 3 hours  
Full Marks : 150

Answer all 6 (six) questions. All questions carry equal marks. Marks of each question and corresponding CO and PO are written in the right margin with brackets.

1. Ferris Corporation makes a single product a fire-resistant commercial filing cabinet that it sells to office furniture distributors. The company has a simple ABC system that it uses for internal decision making. The company has two overhead departments whose costs are as follows:

(CO2)  
(PO2)  
(CO3)  
(PO3)

Manufacturing overhead	\$600,000
Selling and administrative overhead.	\$400,000
Total overhead costs	\$1,000,000

The company's ABC system has the following activity cost pools and activity measures:

Activity Cost Pool	Activity Measures
Assembling units	Number of units
Processing orders	Number of orders
Supporting customers	Number of customers
Other	Not applicable

Ferris Corporation distributes the costs of manufacturing overhead and selling and administrative overhead to the activity cost pools based on employee interviews, the results of which are reported below:

Particulars	Assembling Units	Processing Orders	Supporting Customers	Other	Total
Manufacturing overhead	50%	35%	5%	10%	100%
Selling and administrative overhead	10%	45%	25%	20%	100%
Total activity	2,000 units	250 orders	200 customers		

Instructions:

- a) Perform the first-stage allocation of overhead costs to the activity cost pools. 02
- b) Compute activity rates for the activity cost pools. 03
- c) Office Mart is one of Ferris Corporation's customers. Last year, Office Mart ordered filing cabinets four different times. Office Mart ordered a total of 80 filing cabinets during the year. Construct a table showing the overhead costs attributable to Office Mart. 10
- d) The selling price of a filing cabinet is \$595. The cost of direct materials is \$180 per filing cabinet, and direct labor is \$50 per filing cabinet. What is the customer margin of Office Mart? 10

2. Dexter Corporation produces and sells a single product, a wooden hand loom for weaving small items such as scarves. Selected cost and operating data relating to the product for two years are given below:

<b>Selling price per unit</b>	\$50
<b>Manufacturing costs:</b>	
Variable manufacturing cost per unit produced:	\$11
Direct materials	\$6
Direct labor	\$3
Fixed manufacturing overhead per year	\$120,000
<b>Selling and administrative expenses:</b>	
Variable selling and administrative per unit sold	\$4
Fixed selling and administrative per year	\$70,000

Particulars	Year 1	Year 2
Units in beginning inventory	0	2,000
Units produced during the year	10,000	6,000
Units sold during the year	8,000	8,000
Units in ending inventory	2,000	0

**Instructions:**

- a) Assume the company uses absorption costing. 10  
 i. Compute the unit product cost in each year.  
 ii. Prepare an income statement for each year.
- b) Assume the company uses variable costing. 10  
 i. Compute the unit product cost in each year.  
 ii. Prepare an income statement for each year.
- c) Reconcile the variable costing and absorption costing net operating incomes. 05
3. Voltar Company manufactures and sells a specialized cordless telephone for high electromagnetic radiation environments. The company's contribution format income statement for the most recent year is given below:

Particulars	Total	Per Unit	Percent of Sales
Sales (20,000 units)	\$1,200,000	\$60	100%
Variable expenses	\$900,000	\$45	7%
Contribution margin	\$300,000	\$15	7%
Fixed expenses	\$240,000		
Net operating income	\$60,000		

**Instructions:**

Refer to the original data. In an effort to increase sales and profits, management is considering the use of a higher-quality speaker. The higher-quality speaker would increase variable costs by \$3 per unit, but management could eliminate one quality inspector who is paid a salary of \$30,000 per year. The sales manager estimates that the higher-quality speaker would increase annual unit sales by at least 20%.

- a) Assuming that changes are made as described above, prepare a projected contribution format income statement for next year. Show data on a total, per unit, and percentage basis. 10
- b) Compute the company's new break-even point in both unit sales and dollar sales. Use the formula method. 10
- c) Would you recommend that the changes be made? 05
4. Many new cost terms have been introduced in this chapter. It will take you some time to learn what each term means and how to properly classify costs in an organization. Consider the following example: Porter Company manufactures furniture, including tables. Selected costs are given below: 25 (CO1) (PO1)
- i. The tables are made of wood that costs \$100 per table.
  - ii. The tables are assembled by workers, at a wage cost of \$40 per table.
  - iii. Workers assembling the tables are supervised by a factory supervisor who is paid \$45,000 per year.
  - iv. Electrical costs are \$2 per machine-hour. Four machine-hours are required to produce a table.
  - v. The depreciation on the machines used to make the tables totals \$10,000 per year.
  - vi. The machines have no resale value and do not wear out through use.
  - vii. The salary of the president of the company is \$200,000 per year.
  - viii. The company spends \$250,000 per year to advertise its products.
  - ix. Salespersons are paid a commission of \$30 for each table sold.
  - x. Instead of producing the tables, the company could rent its factory space for \$50,000 per year.

**Instructions:**

Classify these costs according to the various cost terms used.