

PGDM (IB), 2020-22
Managerial Accounting
IB-206

Trimester – II, End-Term Examination: January 2021

Time allowed: 2 hrs 30 min

Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. In case of rough work please use answer sheet.

Instruction: Show all the steps involved in solving the problems.

Section A (30 marks)

1. A) The Doral Company manufactures and sells pens. Currently, 5,000,000 units are sold per year at \$0.50 per unit. Fixed costs are \$900,000 per year. Variable costs are \$0.30 per unit.

Consider each case separately:

Required:

i). **a.** What is the current annual operating income?

b. What is the present breakeven point in revenues?

Compute the new operating income for each of the following changes:

ii) A \$0.04 per unit increase in variable costs

iii) A 10% increase in fixed costs and a 10% increase in units sold

iv) A 20% decrease in fixed costs, a 20% decrease in selling price, a 10% decrease in variable cost per unit, and a 40% increase in units sold (2.5 marks x 4)

OR

1. B) Brooke Motors is a small car dealership. On average, it sells a car for \$27,000, which it purchases from the manufacturer for \$23,000. Each month, Brooke Motors pays \$48,200 in rent and utilities and \$68,000 for salespeople's salaries. In addition to their salaries, salespeople are paid a commission of \$600 for each car they sell. Brooke Motors also spends \$13,000 each month for local advertisements. Its tax rate is 40%.


Required:

i) How many cars must Brooke Motors sell each month to break even?

ii) Brooke Motors has a target monthly net income of \$51,000. What is its target monthly operating income? How many cars must be sold each month to reach the target monthly net income of \$51,000? (5 marks x 2)

2. A Automotive Products (AP) designs and produces automotive parts. In 2014, actual variable manufacturing overhead is \$308,600. AP's simple costing system allocates variable manufacturing overhead to its three customers based on machine-hours and prices its contracts based on full costs. One of its customers has regularly complained of being charged

non-competitive prices, so AP's controller Devon Smith realizes that it is time to examine the consumption of overhead resources more closely. He knows that there are three main departments that consume overhead resources: design, production, and engineering. Interviews with the department personnel and examination of time records yield the following detailed information.

						
	A	B	C	D	E	F
1				Usage of Cost Drivers by Customer Contract		
2	Department	Cost Driver	Manufacturing Overhead in 2014	United Motors	Holden Motors	Leland Auto
3	Design	CAD-design-hours	\$ 39,000	110	200	80
4	Production	Engineering-hours	29,600	70	60	240
5	Engineering	Machine-hours	<u>240,000</u>	120	2,800	1,080
6	Total		<u>\$308,600</u>			

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Required:

- i) Compute the manufacturing overhead allocated to each customer in 2014 using the simple costing system that uses machine-hours as the allocation base.
- ii) Compute the manufacturing overhead allocated to each customer in 2014 using department-based manufacturing overhead rates.
- iii) Comment on your answers in requirements 1 and 2. Which customer do you think was complaining about being overcharged in the simple system? If the new department-based rates are used to price contracts, which customer(s) will be unhappy? How would you respond to these concerns? (3+3+4)

OR

2. B) Triumph Trophies makes trophies and plaques and operates at capacity. Triumph does large custom orders, such as the participant trophies for the Minnetonka Little League. The controller has asked you to compare plant-wide, department, and activity- based cost allocation.

Triumph Trophies Budgeted Information for the Year Ended November 30, 2014

Forming Department	Trophies	Plaques	Total
Direct materials	\$26,000	\$22,500	\$48,500
Direct manufacturing labor	31,200	18,000	49,200
Overhead costs			
Set up			24,000
Supervision			20,772

Assembly Department	Trophies	Plaques	Total
Direct materials	\$ 5,200	\$18,750	\$23,950
Direct manufacturing labor	15,600	21,000	36,600
Overhead costs			
Setup			46,000
Supervision			21,920

Other information follows:

Setup costs in each department vary with the number of batches processed in each department. The budgeted number of batches for each product line in each department is as follows:

	Trophies	Plaques
Forming department	40	116
Assembly department	43	103

Supervision costs in each department vary with direct manufacturing labor costs in each department.

Required:

- i) Calculate the budgeted cost of trophies and plaques based on a single plant-wide overhead rate, if total overhead is allocated based on total direct costs.
- ii) Calculate the budgeted cost of trophies and plaques if Triumph allocates overhead costs in each department using activity-based costing.
- iii) Explain how the disaggregation of information could improve or reduce decision quality. (3+3+4)

3. A) Answer the following questions.

- i) A company has an inventory of 1,250 assorted parts for a line of missiles that has been discontinued. The inventory cost is \$76,000. The parts can be either (a) remachined at total additional costs of \$26,500 and then sold for \$33,500 or (b) sold as scrap for \$2,500. Which action is more profitable? Show your calculations.
- ii) A truck, costing \$100,500 and uninsured, is wrecked its first day in use. It can be either (a) disposed of for \$18,000 cash and replaced with a similar truck costing \$103,000 or (b) rebuilt for \$88,500 and thus be brand-new as far as operating characteristics and looks are concerned. Which action is less costly? Show your calculations. (5+5)

OR

3. B) i) DeCesare Computers makes 5,200 units of a circuit board, CB76, at a cost of \$280 each. Variable cost per unit is \$190 and fixed cost per unit is \$90. Peach Electronics offers to supply 5,200 units of CB76 for \$260. If DeCesare buys from Peach it will be able to save \$10 per unit in fixed costs but continue to incur the remaining \$80 per unit. Should DeCesare accept Peach's offer? Explain.

ii) LN Manufacturing is deciding whether to keep or replace an old machine. It obtains the following information:

	Old Machine	New Machine
Original cost	\$10,700	\$9,000
Useful life	10 years	3 years
Current age	7 years	0 years
Remaining useful life	3 years	3 years
Accumulated depreciation	\$7,490	Not acquired yet
Book value	\$3,210	Not acquired yet
Current disposal value (in cash)	\$2,200	Not acquired yet
Terminal disposal value (3 years from now)	\$0	\$0
Annual cash operating costs	\$17,500	\$15,500

LN Manufacturing uses straight-line depreciation. Ignore the time value of money and income taxes. Should LN Manufacturing replace the old machine? Explain. (5+5)

Section B (20 marks)

Important: Please demonstrate all the steps for computation

4. XYZ Ltd. has two divisions, A and B. Division A makes and sells product A, which can be sold outside as well as be used by B. A has a limitation on production capacity, that only 1,200 units can pass through its machining operations in one month. On an average, about 10% of the units that A produces are defective. It may be assumed that out of each lot that A supplies, 10% are defectives.

When A sells in the outside market, the defectives are not returned, since the transportation costs make it uneconomical for the customer. Instead, A's customers sell the defectives in the outside market at a discount.

But, when B buys product A, it has to fix it into its product, which is reputed for its quality. Therefore, B returns all the defective units to A. A can manually rework the defectives, incurring only variable labour cost and sell them outside at Rs.150 and not having to incur any selling costs on reworked units. If A chooses not to rework, it can only scrap the material at Rs.30 per unit. B can buy product A from outside at Rs.200 per unit, but has to incur Rs.10 per unit as variable transport cost. B can insist to its outside suppliers also that it will accept only good units.

A incurs a variable selling overhead only on units (other than reworked units) sold

outside. The following figures are given for the month:

Variable cost of production – Dept. A (Rs./unit)	120
Variable selling overhead (Rs./u)	20
Selling price per unit in the outside market (Rs./u)	200
Current selling price to B (Rs./u)	190
Additional variable labour cost of reworking defectives (Rs./u)	100
Selling price of reworked defectives (Rs./u)	150
Fixed costs for the month (Rs.)	36,000
Maximum demand from B at present (no. of units)	630

The outside demand can be freely had upto 900units.

Given the demand and supply conditions, you are required to present appropriate calculations for the following:

- (i) Evaluation of the best strategy for A in the present condition.
- (ii) If B can buy only upto 540 units and the outside demand is only 600 units, how much should A charge B to maintain the same level of profit as in (i) above?
(10+10)