

PGDM, 2018-20
Managerial Accounting
IB 202

Trimester – II, End-Term Examination: December 2018

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**. All other instructions on the reverse of Admit Card should be followed meticulously. Please carry a non-programmable calculator.

Section: A (15 Marks).

Attempt 3 out of 5 questions, each question carries 5 marks.

1. Fill in the blanks for each of the following independent cases.

		Variable Costs		Operating Income	Contribution Margin Percentage
a.		\$800		\$1,200	\$1,000
b.	\$2,400		\$400		\$ 700
c.	\$ 900	\$500		\$ 900	
d.	\$1,800		\$400		50%

2. The Swift Meal has two restaurants that are open 24 hours a day. Fixed costs for the two restaurants together total \$456,000 per year. Service varies from a cup of coffee to full meals. The average sales check per customer is \$9.50. The average cost of food and other variable costs for each customer is \$3.80. The income tax rate is 30%. Target net income is \$159,600.

Required:

- i) Compute the revenues needed to earn the target net income.
- ii) How many customers are needed to break even? To earn net income of \$159,600?

3. A company purchases machinery costing \$60,000 in October of 2014. Five years later, management discovers better, more efficient machine that could be purchased for \$80,000 to replace the existing machine. Management has determined that they are able to sell the

original machine for \$15,000. In making the decision about buying the new machine, how much are total sunk costs?

4. Describe the major steps of implementing Target Costing.
5. Describe the important characteristics of Life Cycle Costing.

Sec B

(Attempt 2 out of 3 questions, each question carries 10 marks.)

6. Chartz 1-2-3 is a top-selling electronic spreadsheet product. Chartz is about to release version 5.0. It divides its customers into two groups: new customers and upgrade customers (those who previously purchased Chartz 1-2-3 4.0 or earlier versions). Although the same physical product is provided to each customer group, sizable differences exist in selling prices and variable marketing costs:

	New Customers	Upgrade
<u>Customers</u>		
Selling price	\$195	\$115
Variable costs		
Manufacturing	\$15	\$15
Marketing	<u>50</u>	<u>20</u>
	<u>65</u>	<u>35</u>
Contribution margin	<u>\$130</u>	<u>\$ 80</u>

The fixed costs of Chartz 1-2-3 5.0 are \$16,500,000. The planned sales mix in units is 60% new customers and 40% upgrade customers.

Required:

1. What is the Chartz 1-2-3 5.0 breakeven point in units, assuming that the planned 60%>40% sales mix is attained?
2. If the sales mix is attained, what is the operating income when 170,000 total units are sold?
3. Show how the breakeven point in units changes with the following customer mixes:
 - a. New 40% and upgrade 60%
 - b. New 80% and upgrade 20%

Comment on the results.

7. P&G company produces many products for household use. Company sells products to storekeepers as well as to customers. Detergent-DX is one of the products of P&G. It is a

cleaning product that is produced, packed in large boxes and then sold to customers and storekeepers.

P&G uses a traditional standard costing system to control costs and has established the following materials, labor and overhead standards to produce one box of Detergent-DX:

- Direct materials; 1.5 pounds @ \$12 per pound: \$18.00
- Direct labor; 0.6 hours \$24 per hour: \$14.40
- Variable manufacturing overhead; 0.6 hours @ \$5.00: \$3.00

During August 2012, company produced and sold 3,000 boxes of Detergent-DX. 8,000 pounds of direct materials were purchased @ \$11.50 per pound. Out of these 8,000 pounds, 6,000 pounds were used during August. There was no inventory at the beginning of August. 1600 direct labor hours were recorded during the month at a cost of \$40,000. The variable manufacturing overhead costs during August totaled \$7,200.

Required:

- i) Compute materials price variance and materials quantity variance. (Assume that the materials price variance is computed at the time of purchase.)
 - ii) Compute direct labor rate variance and direct labor efficiency variance.
8. a) Describe two potential problems that should be avoided in relevant cost analysis
- b) How the income tax affects the break even point?
- c) Why the fixed cost is not taken into consideration for short term decision making.

(6+2+2)

Sec C

9. Gormley Precision Tools makes cutting tools for metalworking operations. It makes two types of tools: A6, a regular cutting tool, and EX4, a high-precision cutting tool. A6 is manufactured on a regular machine, but EX4 must be manufactured on both the regular machine and a high-precision machine. The following information is available:

	A6	EX4
Selling price	\$ 200	\$ 300
Variable manufacturing cost per unit	\$ 120	\$ 200
Variable marketing cost per unit	\$ 30	\$ 70
Budgeted total fixed overhead costs	\$700,000	\$1,100,000
Hours required to produce one unit on the regular machine	1.0	0.5

Additional information includes the following:

- Gormley faces a capacity constraint on the regular machine of 50,000 hours per year.
- The capacity of the high-precision machine is not a constraint.
- Of the \$1,100,000 budgeted fixed overhead costs of EX4, \$600,000 are lease payments for the high-precision machine. This cost is charged entirely to EX4 because Gormley uses the machine exclusively to produce EX4. The company can cancel the lease agreement for the high-precision machine at any time without penalties.
- All other overhead costs are fixed and cannot be changed.

Required:

- What product mix—that is, how many units of A6 and EX4—will maximize Gormley's operating income? Show your calculations.
- Suppose Gormley can increase the annual capacity of its regular machines by 15,000 machine-hours at a cost of \$300,000. Should Gormley increase the capacity of the regular machines by 15,000 machine-hours? By how much will Gormley's operating income increase or decrease? Show your calculations.
- Suppose that the capacity of the regular machines has been increased to 65,000 hours. Gormley has been approached by Clark Corporation to supply 20,000 units of another cutting tool, V2, for \$240 per unit. Gormley must either accept the order for all 20,000 units or reject it totally. V2 is exactly like A6 except that its variable manufacturing cost is \$140 per unit. (It takes 1 hour to produce one unit of V2 on the regular machine, and variable marketing cost equals \$30 per unit.) What product mix should Gormley choose to maximize operating income? Show your calculations.