

**PGDM, Batch 2018-20**  
**Managerial Accounting**  
**DM 206**

**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.

**Sec A 15 Marks: Attempt 3 out of 5 questions, all questions carry five marks**

**A1.** How can management accountants help in formulating strategy of organisations?

**A2.** The Exide Battery Ltd. manufactures a high quality battery. The company's plant has an annual capacity of 25,000 units. Exide currently sells 20,000 units at a price of Rs 1,050. It has the following cost structure:

Variable manufacturing cost per unit	450
Fixed manufacturing costs	16,00,000
Variable marketing and distribution cost per unit	100
Fixed marketing and distribution costs	12,00,000

**Required**

Consider each case separately.

1. The Marketing Department indicates that decreasing the selling price to Rs 990 would increase sales to 25,000 units. This strategy will require Exide to increase its fixed marketing and distribution costs. Calculate the maximum increase in fixed marketing and distribution costs that will allow Exide to reduce the selling price to Rs 990 and maintain its operating income.

2. The Manufacturing Department proposes changes in the manufacturing process to add new features to the product. These changes will increase fixed manufacturing costs by Rs 5,00,000 and variable manufacturing cost by Rs 20 per unit. At its current sales quantity of 20,000 units, compute the minimum selling price that will allow Exide to add these new features and maintain its operating income.

**A3.** Big Bubble provided the following list of cost data related to its manufacturing operations for the month of October 2014.

Beginning raw materials inventory	INR 2,416,000
Raw materials purchased (net)	5,863,750
Ending raw materials inventory	2,045,500
Direct labor costs	805,750
Indirect materials	313,750
Indirect labor	222,250
Factory utilities and maintenance	1,140,000
Factory depreciation	141,500
Other factory related overhead	61,000
Beginning work in process	1,942,500
Ending work in process	1,792,500

- a) Arrange the cost data into a statement of cost of goods manufactured.  
b) If Big Bubble's cost of goods sold for the month was INR10,000,000, how much was the increase or decrease in finished goods inventory for the month of October?

**A4.** Which method is better for measuring the financial performance of the divisions, Justify?

**A5.** The production department of factory furnishes the following information for the month of March 2018

Materials used	₹54,000
Direct wages	₹45,000
Overheads	₹36,000
Labour hours worked	36,000
Hours of machine operation	30,000

For an order executed by the department during a particular period, the relevant information was as under:

Materials used	₹6,00,000
Direct Wages	₹3,20,000
Labour hours worked	3,200
Machine hours worked	2,400

Calculate the overhead charges chargeable to the job by the following methods:

- Direct materials cost percentage rate
- Labour hour rate; and
- Machine hour rate

**Sec B 20 Marks: Attempt 2 out of 3 questions, all questions carry ten marks**

**B1.** Ravi, an entrepreneur runs two convenience stores, one in Gurgaon and the other in Noida. Operating income for each store in 2015 is as follows:

	<b>Gurgaon Store</b>	<b>Noida Store</b>
	Rs1,07,00,000	Rs 86,00,000
Revenues		
Operating costs.		
Cost of goods sold	75,00,000	66,00,000
lease rent (renewable each year)	9,00,000	7,50,000
labor costs (paid on an hourly basis)	4,20,000	4,20,000
Depreciation of equipment	2,50,000	2,20,000
Utilities (electricity heating)	4,30,000	4,60,000
Allocated corporate overhead	5,00,000	4,00,000
Total operating costs	1,00,00,000	88,50,000
Operating income (loss)	7,00,000	(2,50,000)

The equipment has a zero disposal value. Mohan the accountant makes the following comment, "Ravi can increase his profitability by closing down the Noida store or by adding another store like it."

Required

- By closing down the Noida store, Ravi can reduce overall corporate overhead costs by Rs 4,40,000. Calculate Ravi's operating income if it closes the Noida store. Is Mohan's statement about the effect of closing the Noida store correct? Explain.
- Calculate Ravi's operating income if it keeps the Noida store open and opens another store with revenues and costs identical to the Noida store (including a cost of `2,20,000 to acquire equipment with a one-year useful life and zero disposal value). Opening this store will increase corporate overhead costs by `40,000. Is Mohan's statement about the effect of adding another store like the Noida store correct? Explain.

**B2.** D Limited is preparing its annual budgets for the year to 31 December 2001. It manufactures and sells one product, which has a selling price of £150. The marketing director

believes that the price can be increased to £160 with effect from 1 July 2001 and that at this price the sales volume for each quarter of 2001 will be as follows:

**Sales volume**

Quarter 1	40,000
Quarter 2	50,000
Quarter 3	30,000
Quarter 4	45,000

Sales for each quarter of 2002 are expected to be 40 000 units.

Each unit of the finished product which is manufactured requires four units of component R and three units of component T, together with a body shell S. These items are purchased from an outside supplier. Currently prices are:

Component R	£8.00 each
Component T	£5.00 each
Shell S	£30.00 each

The components are expected to increase in price by 10% with effect from 1 April 2001; no change is expected in the price of the shell.

Assembly of the shell and components into the finished product requires 6 labour hours: labour is currently paid £5.00 per hour. A 4% increase in wage costs is anticipated to take effect from 1 October 2001.

Variable overhead costs are expected to be £10 per unit for the whole of 2001; fixed production overhead costs are expected to be £240 000 for the year, and are absorbed on a per unit basis. Stocks on 31 December 2000 are expected to be as follows:

Finished units	9000 units
Component R	3000 units
Component T	5500 units
Shell S	500 units

Closing stocks at the end of each quarter are to be as follows:

Finished units	10% of next quarter's sales
Component R	20% of next quarter's production requirements
Component T	15% of next quarter's production requirements
Shell S	10% of next quarter's production requirements

Requirement:

(a) Prepare the following budgets of D Limited for the year ending 31 December 2001, showing values for each quarter and the year in total:

- (i) Sales budget (in £s and units)
- (ii) Production budget (in units)
- (iii) Material usage budget (in units)
- (iv) Production cost budget (in £s). (2+2+3+3 marks)

**B3.** Performance Products Corporation makes two products, titanium Rims and Posts. Data regarding the two products follow:

	Direct Labor-Hours per Unit	Annual Production
Rims .....	0.40	20,000 units
Posts .....	0.20	80,000 units

Additional information about the company follows:

- Rims require Rs. 17 in direct materials per unit, and Posts require Rs.10
- The direct labor wage rate is Rs.16 per hour.
- Rims are more complex to manufacture than Posts, and they require special equipment.

The ABC system has the following activity cost pools:

Activity Cost Pool	Activity Measure	Estimated Overhead		Activity	
		Cost	Rims	Posts	Total
Machine setups	Number of setups	21,600	100	80	180
Special processing	Machine-hours	180,000	4,000	0	4,000
General factory	Direct labor-hours	288,000	8,000	16,000	24,000

Required:

- Compute the activity rate for each activity cost pool.
- Determine the unit cost of each product according to the ABC system, including direct materials and direct labor.

### Sec C 15 Marks: Compulsory Case study

#### Portland Company

Portland Company's Ironton Plant produces precast ingots for industrial use. Carlos Santiago, who was recently appointed general manager of the Ironton Plant, has just been handed the plant's income statement for October. The statement is shown below:

	Budgeted	Actual
Sales (5,000 ingots) .....	\$250,000	\$250,000
Variable expenses:		
Variable cost of goods sold* .....	80,000	96,390
Variable selling expenses .....	20,000	20,000
Total variable expenses .....	100,000	116,390
Contribution margin .....	150,000	133,610
Fixed expenses:		
Manufacturing overhead .....	60,000	60,000
Selling and administrative .....	75,000	75,000
Total fixed expenses .....	135,000	135,000
Net operating income (loss) .....	\$ 15,000	\$ (1,390)

\*Contains direct materials, direct labor, and variable manufacturing overhead.

Mr. Santiago was shocked to see the loss for the month, particularly since sales were exactly as budgeted. He stated, "I sure hope the plant has a standard cost system in operation. If it doesn't, I won't have the slightest idea of where to start looking for the problem." The plant does use a standard cost system, with the following standard variable cost per ingot:

	Standard Quantity or Hours	Standard Price or Rate	Standard Cost
Direct materials .....	4.0 pounds	\$2.50 per pound	\$10.00
Direct labor .....	0.6 hours	\$9.00 per hour	5.40
Variable manufacturing overhead. . .	0.3 hours*	\$ 2.00 per hour	0.60
Total standard variable cost .....			\$16.00

\*Based on machine-hours.

Mr. Santiago has determined that during October the plant produced 5,000 ingots and incurred the following costs:

- a. Purchased 25,000 pounds of materials at a cost of \$2.95 per pound. There were no raw materials in inventory at the beginning of the month.
  - b. Used 19,800 pounds of materials in production. (Finished goods and work in process inventories are insignificant and can be ignored.)
  - c. Worked 3,600 direct labor-hours at a cost of \$8.70 per hour.
  - d. Incurred a total variable manufacturing overhead cost of \$4,320 for the month. A total of 1,800 machine-hours was recorded.
- It is the company's policy to close all variances to cost of goods sold on a monthly basis.

*Required:*

1. Compute all the variances for the month of October:
2. Summarize the variances that you computed in (1) above by showing the net overall favorable or unfavorable variance for October. What impact did this figure have on the company's income statement?
3. Pick out the two most significant variances that you computed in (1) above. Explain to Mr. Santiago possible causes of these variances.