

Time: 3 Hours

Total Marks: 60

## Instructions

1. Question No. 1 is compulsory carrying 20 Marks.
2. Attempt Any Four Questions Carrying 10 marks each from Question No. 2 to Question No. 7
3. Figures in the bracket to the right indicates Marks

## Q 1 Attempt both A and B

- A) Two of the divisions of the PQR Corporation are the Intermediate Division and the Final Division. The Intermediate Division produces three products: A, B, and C. Normally these products are sold both to outside customers and to the Final Division. The Final Division uses Products A, B and C in manufacturing Products X, Y, and Z, respectively. In recent weeks, the supply of Products A, B, and C has tightened to such an extent that the Final Division has been operating considerably below capacity because of the lack of these products. Consequently, the Intermediate Division has been told to sell all its products to the Final Division.

The financial facts about these products are as follows:

Intermediate Division			
	Product A (Rs.)	Product B (Rs.)	Product C (Rs.)
Transfer Price	600	600	900
Variable Manufacturing Cost	180	360	300
Contribution Per Unit	420	240	600
Fixed Costs (total)	30,00,000	60,00,000	45,00,000

The Intermediate Division has a monthly capacity of 50,000 units. The processing Constraints are such that capacity production can be obtained only by producing at least 10,000 units of each product. The remaining capacity can be used to produce 20,000 units of any combination of the three products. The Intermediate Division cannot exceed the capacity of 50,000 Units.

The Final Division has sufficient capacity to produce about 40 percent more than it is now producing because the availability of Products A, B, and C is limiting production. Also, the Final Division can sell all the products that it can produce at the prices indicated.

Final Division			
	Product X (Rs)	Product Y (Rs)	Product Z (Rs)
Selling Price	1,680	1,800	1,800
Variable Cost			
Inside Purchase	600	600	900
Other Variable Cost	300	300	480
Total Variable Cost	900	900	1,380
Contribution per Unit	780	900	420

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Fixed Costs (Total)	60,00,000	60,00,000	1,20,00,000
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- 1) If you were the Manager of the Intermediate Division, what products would you sell to the Final Division? what is the amount of profit that you would earn on these sales?
- 2) If you were the Manager of the Final Division, What products would you order from the Intermediate Division, assuming that the Intermediate Division must sell all its production to you? What profits would you earn?
- 3) What production pattern optimizes total company profit? How does this affect the profits of the Intermediate Division? If you were the executive vice president of PQR and prescribed the optimum pattern, what, if anything, would you do about the distribution of profits between the two divisions?  
**(Marks 15)**

- B) What is Economic Value Addition? Is it superior to ROI? Justify your statement giving suitable examples. **(Marks 5)**

**Q 2. Attempt any two questions from (a), (b) and (c)**

- A) From the following project details, calculate the sensitivity of,  
**(a)** Project Cost,  
**(b)** Annual Cash Flow,  
**(c)** Cost of Capital.

Which variable is more sensitive?

Project Cost	Rs. 12,00,000
Annual Cash Flow	Rs. 04,50,000
Life of the Project	4 Years
Cost of Capital	14%

The annuity factor @14% for 4 years is 2.9137 and at 8% for 4 years are 2.6667 **(Marks 5)**

- B) The following is the profit plan prepared for a company ABC Ltd. For the year ending 31<sup>st</sup> March, 2015

Performance Evaluation Report				
Particulars	Product Line			Total (Rs Lakhs)
		B	C	
Sales Revenue	1,000	600	400	2,000
Controllable Variables	500	360	280	1,140
Cost to make sales	500	240	120	860
Controllable Contribution Margin				
Common firm-wide costs (fixed)				660

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Profit				200
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The income statement for the year ended 31<sup>st</sup> March 2015 showed the following,

Particulars	Product Line			Total (Rs Lakhs)
	A	B	C	
Sales	660	660	880	2,000
Less: Special Discount	20	-	-	20
	640	660	880	2,180
Controllable Variables	332	400	620	1,352
Cost to make and sell				
Controllable Margin	308	260	260	828
Common firm-wide Costs (fixed)				670
Profit				158

Special discounts were granted on large orders and additional appropriation of Rs. 6 lakhs was approved for advertising and sales promotion. There was no change in the selling prices.

You are required to prepare an analysis of the changes in net income that would be helpful in fixing responsibility using the contribution approach. **(Marks 5)**

- C) From the following details, **determine the net income** of PQS Limited for the year ended 31<sup>st</sup> March 2015: **(Marks 5)**

	Rs
Sales	10,00,000
Cost of Sales	6,00,000
Variable Expenses	1,80,000
Fixed Expenses (for the profit centers)	90,000
Controllable Expenses	10,000
Other Allocations	10,000
Tax @ 2%	20,000

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**Q 3. Attempt any two questions from (A), (B) and (C)**

(A) The following details are given for Unit X and Unit Y of a company,

Expected Monthly Sales to Business Unit Y	5000 Units
Variable Cost Per Unit	Rs 5
Monthly Fixed Cost assigned to the Product	Rs. 20,000
Investment in working capital and other facilities	Rs. 1,20,000
Competitive Return on Investments	10%

You are required to calculate the transfer price. **(Marks 5)**

(B) There are three Business units of a company manufacturing chemical products. The following data is available for the year 2015:

Business Unit	Net Sales (Rs)	Operating Costs (Rs)	Operating Assets (Rs)
A	3,00,000	2,55,000	1,25,000
B	15,00,000	12,00,000	7,50,000
C	14,00,000	10,50,000	12,50,000

State which business unit is the best performer as per ROI? **(Marks 5)**

(C) The Z manufacturing company produces a special kind of cement which is packaged and sold in bags of 20 kgs. During the past month its revenue and cost patterns were as follows:

Selling Price per Bag	Rs. 300
Variable Cost Per bag	Rs. 160
Fixed Cost	Rs. 1,00,000
Quantity	3,000 bags

Consider each of the following separately:

- 1) What is the break even quantity?
- 2) Assume a 10% increase in selling price. What is the new break even point?
- 3) Assume a 50% increase in Fixed Cost. What is the new break even point?
- 4) Assume a 10% increase in production volume, what is the percentage change in profits?
- 5) Assume that the variable cost increases to Rs. 200 per bag. What is the new break even? **(Marks 5)**

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**Q 4. Attempt any two questions from (A), (B) and (C)**

(A) The following information is available about V Limited:

- Sales of this year – Rs 1, 00,000
- Projected Sales increase for next year – 10%
- Profit after tax this year – Rs 6000
- Dividend Payout Ratio – 60%
- Projected surplus funds available next year – Rs. 1,500
- Present level of spontaneous current liabilities – Rs. 30,000

From the above information, what is the level of total assets of V LIMITED? **(Marks 5)**

(B) The Budgeted data of a division of X Limited is given below:

Average available assets:

	(Rs)
Receivables	3,00,000
Inventories	2,00,000
Fixed Assets	5,00,000
Total	10,00,000
Fixed Costs	2,25,000

Variable cost is Rs. 5 per unit, Target rate of return on average assets is 27.5%, and Expected Volume is 2, 00,000 units

You are required to:

- 1) What average unit sales price is needed to obtain the target rate of return on average available asset?
- 2) What would be the percentage of net-income on sales?
- 3) What rate of return would be earned on assets available if sales volume is 3, 00,000 units, assuming no changes in price or costs? **(Marks 5)**

(C) A factory is currently working at 50% capacity and produces 10,000 units. At 60% capacity utilization raw material cost increase by 2% and selling price falls by 2%. At 80% capacity product costs is Rs. 180 and is sold at Rs. 200 per unit. The unit cost of Rs. 180 is, made up as follows:

- Material Cost Rs. 100**
- Labour Cost Rs. 30**
- Factory Overheads Rs. 30 (40% Fixed)**
- Administrative Overheads Rs. 20 (50% Fixed)**

Estimate Profits at all three levels of capacity utilization. **(Marks 5)****Q 5. Attempt any two questions from (A), (B) and (C)**(A) **Determine the sales of a firm** with the following financial data:

- Current Ratio – 1.5
- Acid Test Ratio – 1.2
- Current Liabilities – 8, 00,000
- Inventory Turnover Ratio – 5 Times **(Marks 5)**

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