

## Paper 5: COST MANAGEMENT

**Question No.1 is compulsory. Answer any four from the rest.  
Working notes should form part of the answer.**

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**Question 1(a):**

The following tables gives the activities in a construction project and the time duration of each activity:

(6 Marks)

Activity	Preceding activity	Normal Time (Days)
A	-	16
B	-	20
C	A	8
D	A	10
E	B, C	6
F	D, E	12

**Required:**

- (i) Draw the activity network of the project.
- (ii) Find critical path.
- (iii) Find the total float and free-float for each activity.

**Question 1(b):**

(14 Marks)

A manufacturer produces three products whose cost data are as follows:

	X	Y	Z
Direct materials (Rs./Unit)	32.00	76.00	58.50
Direct Labour :			
Dept.	Rate/hour (Rs.)	Hours	Hours
1	2.50	18	10
2	3.00	5	4
3	2.00	10	5
		8	4.50
			10.50

Variable overheads (Rs.)

Fixed overheads (Rs.) 4,00,000 per annum.

The budget was prepared at a time, when market was sluggish. The budgeted quantities and selling prices are as under :

Product	Budgeted quantity (Units)	Selling price/unit (Rs.)
X	19,500	135
Y	15,600	140
Z	15,600	200

Later, the market improved and the sales quantities could be increased by 20 per cent for product X and 25 per cent each for products Y and Z. The sales manager confirmed that the increased sales could be achieved at the prices originally budgeted. The production manager stated that the output could not be increased beyond the budgeted level due to the limitation of Direct labour hours in department 2.

**Required:**

- (i) Prepare a statement of budgeted profitability.
- (ii) Set optimal product mix and calculate the optimal profit.

**Question 1(c):****(4 Marks)**

S Limited is engaged in manufacturing activities. It has received a request from one of its important customers to supply a product which will require conversion of material 'M', which is a non-moving item.

The following details are available

Book value of material M	Rs. 60
Realisable value of material M	Rs. 80
Replacement cost of material M	Rs. 100

It is estimated that conversion of one unit of 'M' into one unit of the finished product will require one labour hour. At present, labour is paid at the rate of Rs. 20 per hour. Other costs are as follows:

Out-of-pocket expenses	Rs. 30 per unit
Allocated overheads	Rs. 10 per unit

The labour will be re-deployed from other activities. It is estimated that the temporary redeployment will not result in loss of contribution. The employees to be re-deployed are permanent employees of the company.

**Required:**

Estimate the minimum price to be charged from the customer so that the company is not worse off by executing the order.

**Question 2(a):****(10 Marks)**

A company manufactures a single product, which requires two components. The company purchases one of the components from two suppliers: X Limited and Y Limited. The price quoted by X Limited is Rs. 180 per hundred units of the component and it is found that on an average 3 per cent of the total receipt from this supplier is defective. The corresponding quotation from Y Limited is Rs. 174 per hundred units, but the defective would go up to 5 per cent. If the defectives are not detected, they are utilized in production causing a damage of Rs. 180 per 100 units of the component.

The company intends to introduce a system of inspection for the components on receipt. The inspection cost is estimated at Rs. 24 per 100 units of the component. Such an inspection will be able to detect only 90 per cent of the defective components received. No payment will be made for components found to be defective in inspection.

**Required:**

- Advise whether inspection at the point of receipt is justified ?
- Which of the two suppliers should be asked to supply ? (Assume total requirement is 10,000 units of the component.)

**Question 2(b):****(9 Marks)**

What are the distinctive features of learning curve theory in manufacturing environment? Explain the learning curve ratio.

**Question 3:****(19 Marks)**

The working results of a Software Company for two corresponding years are shown below :

	Amount (Rs. In lakhs)	
	Year 2005	Year 2006
Sales (A)	600	770
Cost of Sales:		
Direct materials	300	324
Direct wages and variable overheads	180	206
Fixed overheads	80	150
Total (B)	<u>560</u>	<u>680</u>
Profit (A-B)	<u>40</u>	<u>90</u>

In year 2006, there has been an increase in the selling price by 10 per cent. Following are the details of material consumption and utilization off direct labour hours during the two years:

	<b>Year 2005</b>	<b>Year 2006</b>
Direct material consumption (M. tons)	5,00,000	5,40,000
Direct labour hours	75,00,000	80,00,000

**Required:**

- (i) Taking year 2005 as base year, analyze the variances of year 2006 and also work out the amount which each variance has contributed to change in profit.
- (ii) Find out the breakeven sales for both years.
- (iii) Calculate the percentage increase in selling price in the year 2006 that would be needed over the sale value of year 2006 to earn margin of safety of 45 per cent.

**Question 4(a):**

**(11 Marks)**

A company has four zones open and four marketing managers available for assignment. The zones are not equal in sales potentials. It is estimated that a typical marketing manager operating in each zone would bring in the following Annual sales:

<b>Zones</b>	<b>Rs.</b>
East	2,40,000
West	1,92,000
North	1,44,000
South	1,20,000

The four marketing managers are also different in ability. It is estimated that working under the same conditions, their yearly sales would be proportionately as under:

Manager M :8  
 Manager N : 7  
 Manager O : 5  
 Manager P : 4

**Required:**

If the criterion is maximum expected total sales, find the optimum assignment and the Maximum sales.

**Question 4(b):**

**(8 Marks)**

“In many organizations, initiatives to introduce balanced score card failed because efforts were made to negotiate targets rather than to build consensus.”

**Required :**

Elucidate the above statement.

**Question 5(a):**

**(5 Marks)**

“Cost can be managed only at the point of commitment and not at the point of incidence. Therefore it is necessary to manage cost drivers to manage cost.” Explain the statement with reference to structural and executional cost drivers.

**Question 5(b):**

**(4 Marks)**

Explain the main features on ‘Enterprise Resource Planning’.

**Question 5(c):****(10 Marks)**

X Limited having an installed capacity of one lakh units of a product is currently operating at 70 per cent utilization. At current level of input prices, the F.O.B costs per unit, taking credit for applicable export incentive workout as follows:

Capacity Utilization	70%	80%	90%	100%
FOB Cost per unit (Rs.)	97	92	87	82

The company has received three foreign offers as under:

Source A : 5,000 units @ Rs. 55 per unit FOB

Source B : 10,000 units @ Rs. 52 per unit FOB

Source C : 10,000 units @ Rs. 51 per unit FOB

**Required :**

Advice the company whether it should accept any or all the export orders.

**Question 6 (a):****(10 Marks)**

What is the fundamental difference between Activity Based Costing System (ABC) and Traditional Costing System? Why more and more organizations in both the manufacturing and non-manufacturing industries are adopting ABC ?

**Question 6(b):****(9 Marks)**

What is Target Costing? It is said that implementation of the target costing technique requires intensive marketing research. Explain why intensive marketing research is required to implement target costing technique.