

PAPER 5 : COST ACCOUNTING & COST SYSTEMS
MAY 2006

Question No.1 is compulsory

Answer any **four** questions from the rest.

Working notes should form part of the answer wherever appropriate, suitable assumptions should be made

Question 1

- (a) What are the elements of a balanced score card? Also explain, how it can be used as a financial planning model. **(4 Marks)**
- (b) What is the concept of "Value-chain" and why is it important for Cost Management? **(4 Marks)**
- (c) Computo Ltd., manufactures two parts "P" and "Q" for Computer Industry. **(16 Marks)**

P: Annual production and sales of 1,00,000 units at a selling price of Rs.100.05 per unit.

Q: Annual production and sales of 50,000 units at a selling price of Rs.150 per unit.

Direct and Indirect costs incurred on these two parts area as follows :

	(Rs. in thousand)		
	P	Q	Total
Direct material cost (variable)	4,200	3,000	7,200
Labour cost (variable)	1,500	1,000	2,500
Direct machining cost (See note)*	700	550	1,250
Indirect costs:			
Machine set up cost			462
Testing cost			2,375
Engineering cost			2,250
			16,037

* Note :Direct machining costs represent the cost of machine capacity dedicated to the production of each product. These costs are fixed and are not expected to vary over the long run horizon.

Additional information is as follows:

	P	Q
Production batch size	1,000 units	500 units
Set up time per batch	30 hours	36 hours
Testing time per unit	5 hours	9 hours
Engineering cost incurred on each product	8.40 lacs	14.10 lacs

A foreign cost incurred on each product very similar to "P". To maintain the company's share and profit. Computo Ltd., has to reduce the price to Rs.86.25. The company calls for a meeting and comes up with a proposal to change design of product "P". The expected effect of new design is as follows:

- Direct material cost is expected to decrease by Rs.5 per unit.
- Labour cost is expected to decrease by Rs.2 per unit.
- Machine time is expected to decrease by 15 minutes, previously it took 3 hours to produce 1 unit of "P". The machine will be dedicated to the production of new design.
- Set up time will be 28 hours for each set up.
- Time required for testing each unit will be reduced by 1 hour.
- Engineering cost and batch size will be unchanged.

Required :

- (a) Company management identifies that cost driver for Machine set-up costs is "set up hours used in batch setting" and for testing costs is "testing time". Engineering costs are assigned to products by special study. Calculate the full cost per unit for "P" and "Q" using Activity based costing.
- (b) What is the mark up on full cost per unit of P?

- (c) What is the Target cost per unit for new design to maintain the same mark up percentage on full cost per unit as it had earlier? Assume cost per unit of cost drives for the new design remains unchanged.
- (d) Will the new design achieve the cost reduction target?
- (e) List four possible management actions that the Computo Ltd., should take regarding new design.

Question 2

- (a) Zilmil Ltd., makes two products “Brightly” and “Lightly”. Both the products use the same labour force, the size of which is restricted to 78,000 hours per month. Brightly needs 2 hours per unit to make whereas lightly needs one hour. The estimated production and sales, manufacturing and selling expenses per month are as follows: **(11 Marks)**

	P		Q	
Production and sales (in Nos.)	12,000	16,000	40,000	48,000
Cost per month (Rs.)	34,00,000	38,00,000	62,00,000	66,80,000

The company is considering pricing option in a highly competitive market. It has estimated sales demand at various selling prices:

Brightly :

Selling price per unit(Rs.)	276	272	268	264	260	254
Sales demand per month	12,000	14,000	16,000	18,000	20,000	22,000

Lightly :

Selling price per unit (Rs.)	163	162	161	160	156	152
Sales demand per month	40,000	42,000	44,000	46,000	48,000	50,000

You are required to compute profit maximizing price and quantity for each product.

- (b) What are some goals of a “transfer – pricing” system in an organization? **(4 Marks)**
- (c) “Overhead variance should be viewed as interdependent rather than independent”. Explain. **(4 Marks)**

Question 3

- (a) Jay Kay Limited is a single product manufacturing company. The following information relates to the months of May and June 2003: **(11 Marks)**

	May (Rs.)	June (Rs.)
(i) Budgeted costs and selling prices:		
Variable manufacturing cost per unit	2.00	2.20
Total fixed manufacturing cost (based on budgeted output of 25,000 units per month)	40,000	44,000
Total fixed marketing cost	14,000	15,400
Selling price per unit	5.00	5.50
(ii) Actual production and sales:	Units	Units
Production	24,000	24,000
Sales	21,000	26,500

(iii) There was no stock of finished goods at the beginning of May 2003. There was no wastage or loss of finished goods during May or June 2003.

(iv) Actual cost incurred corresponded to those budgeted for each month.

You are required to calculate the relative effects on the monthly operating profits of applying: (a) Absorption costing and (b) Marginal Costing.

- (b) What is total – life – cycle costing approach ? Why is it important? **(4 Marks)**
- (c) Why are conventional product costing system more likely to distort product costs in highly automated plants? How do activity based costing system deal with such a situation. ? **(4 Marks)**

Question 4

- (a) An organization manufacture a product, particulars of which are detailed below: **(11 Marks)**

Annual Production (Units)	20,000
Cost per annum (Rs.)	
Material	50,000
Other variable cost	60,000
Fixed costs	40,000
Apportioned Investment (Rs.)	<u>1,50,000</u>

Determine the unit selling price under two strategies mentioned below. Assume that the organization's Tax rate is 40% –

- (a) 20% return on investment.
 (b) 6% profit on list sales, when trade discount is 40%.
 (b) "Sunk Cost is irrelevant in decision – making, but irrelevant costs are not sunk costs". Explain with example. **(4 Marks)**
 (c) How will you apply customer costing in service sector? Explain with the help of a suitable example. **(4Marks)**

Question 5

- (a) A company is engaged in manufacturing two products "X" and "Y". Product X uses one unit of component "P" and two units of component "Q". Product "Y" uses two units of component "P", one unit of component "Q" and two units of component "R". Component "R" which is assembled in the factory uses one unit of component "Q".

Component "P" and "Q" are purchased from the market. The company has prepared the following forecast of sales and inventory for the next year:

	Product "X"	Product "Y"
Sales (in units)	80,000	1,50,000
At the end of the years	10,000	20,000
At the beginning of the year	30,000	50,000

The production of both the products and the assembling of the component "R" will be spread out uniformly throughout the year. The company at present orders its inventory of "P" and "Q" in quantities equivalent to 3 months production. The company has compiled the following data related to two components:

	P	Q
Price per unit (Rs.)	20	8
Order placing cost per order (Rs.)	1,500	1,500
Carrying cost per annum	20%	20%

Required :

- (a) Prepare a Budget of production and requirements of components during next year.
 (b) Suggest the optimal order quantity of components "P" and "Q".
 (b) Differentiate between "Value added" and "Non value added" activities in the context of Activity based costing. **(4 Marks)**
 (c) "The use of Absorption costing method in decision making process leads to anomalies". Discuss. **(4 Marks)**

Question 6

- (a) A company manufactures two products "X" and "Y". Company's fixed cost per annum is Rs.5 lacs. These products are sold for Rs.288 per unit of "X" and Rs.432 per unit of "Y". Standard cost data are:

(11 Marks)

Product "X"	Product "Y"
Rs.	Rs.

Direct Raw material	40	80
Direct wages Rs.8 per hour in Departments:		
1	48	72
2	24	48
3	72	--
4	--	96
Variable overhead	32	28

The company operates 8 hours shift for 300 days in a year. Number of workers engaged by each department is given below:

Department	1	2	3	4
No. of workers	45	24	27	36

Required :

- How many units of each product should be manufactured and what is the resultant maximum profit, if numbers of employees can not be increased or transferred?
 - If only one product is to be manufactured by the Company, which of the products would give the maximum profit and what is the amount of such profit?
- (b) How has the composition of manufacturing costs changed during recent years? How has this change affected the design of cost accounting systems? **(4 Marks)**
- (c) Explain the concept "Learning Curve". How can it be applied for Cost Management? **(4 Marks)**