

**PAPER 5 : COST ACCOUNTING & COST SYSTEMS
NOVEMBER 2001**

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

Question 1

- (a) Indicate the possible disadvantages of treating divisions as profit centres. **(4 Marks)**
- (b) What disadvantages the measurement of work has in terms of work done? **(3 Marks)**
- (c) X Ltd., has incurred losses during the past five years. Its projection for the year 2002 is also not very encouraging. The management is seriously considering the closure of the only manufacturing unit. However, it is quite open to getting the products on a sub-contracting basis and to continue its administrative and marketing functions. Currently, four products are being manufactured and sold by catering to different markets. The management is also willing to sacrifice any of these products to ensure survival. **(17 Marks)**

The projection for the four products for 2002 are :

	(Rs. in Crores)			
	A	B	C	D
Sales	72.0	54.0	84.0	60.0
Costs :				
Material	48.0	30.0	54.0	36.0
Labour	18.0	12.0	30.0	30.0
Allocated overheads:				
Manufacturing	6.0	4.8	7.2	4.8
Admins. & Selling	2.4	1.2	3.6	2.4
Total cost	74.4	48.0	94.8	73.2
Profit / (Loss)	(2.4)	6.0	(10.8)	(13.2)

The projected volume and sub-contracting charges are:

	A	B	C	D
Volume ('000 nos.)	2,000	1,500	3,000	2,000
Sub-contracting charges/unit(Rs.)	80	70	90	130

Manufacturing, administrative and selling overheads consists of staff salaries, rent, essential maintenance and tax payable to the local authorities.

In case the management decides to discontinue the manufacturing operations a minimum notice period of 3 months will be required to be given to the staff as well as to the landlords of the manufacturing unit and offices. You may assume that both the manufacturing as well as the administrative and selling overheads are fixed in nature, and that in the notice period mentioned above, these expenses would continue to be incurred.

- Assume that labour costs are related to the volume of operations and do not involve any notice period for discontinuance;
- Assume that the costs are incurred and revenues earned evenly in each of the calendar months.

Based on the above, you are required to advise the management on the best option out of the options under its considerations, viz.,

- (i) Issue notices to the staff, the landlords of manufacturing unit and offices on the first day of the year and discontinue all the operations on that very day.
- (ii) Issue notices as above on the first day of the year and continue the operations till the end of the notice period. (only profitable products need to be continued).
- (iii) Issues notices to the staff and the landlord, only in the manufacturing unit, resort to sub-contracting and to continue the administrative and marketing functions, (sub- contracting is needed to be done of profitable products only).

Question 2

- (a) Discuss the role of costs in product – mix decisions. **(4 Marks)**
- (b) P Ltd., manufactures plastic cans of a standard size. The variable cost per can is Rs.4 and the selling price is Rs.10 each. The factory of the company has eight machines of identical size. Any individual machine can produce 30 cans per hour. The factory works on a 300 days per annum basis and the actual available hour per machine per day is 7.5. The company has an order of 4,20,000 cans from an oil company, to supply. The yearly fixed cost of the company is Rs.20 lacs. P Ltd., has received an order from another firm for supplying 60,000 nos. of plastic moulded toys. The price of the toys is Rs.60 each and the variable cost is Rs.50 each. While this order would be acceptable for supplying for total quantities only, on acceptance, a special mould costing Rs.2,25,000 would be required to be acquired to manufacture the toys. The time study exercise has revealed that 15 nos. of toys can be produced per hour by any of the machines; **(15 Marks)**

Advise the company, with reasons in the following situations :

- (i) Whether to accept the order of manufacturing moulded toys, in addition to supplying 4,20,000 nos. of cans or not;
- (ii) Whether to accept the order of manufacturing moulded toys, if the order of cans increases to 5,40,000 nos. or not;
- (iii) While a sub-contractor is willing to supply the toys, either whole or part of the required quantities at an all inclusive rate of Rs.57.50 each, what would be the minimum excess capacity needed to justify the manufacturing of any portion of the toys order, instead of sub-contracting?
- (iv) The Company had an understanding that the orders of the cars will be increased during the year on negotiation, and planned and manufactured 4,50,000 cans during the year. for utilizing the excess capacity, they also accepted the toys order and sub-contracted only 15,000 nos. of toys. at the year's end, however, it was revealed that the order of the cans could be for 4,80,000 nos. if it was property negotiated. how much loss has been suffered by the company due to improper prediction of demand and negotiation.

Question 3

- (a) State the distinction between Marginal costing and Absorption Costing. **(7 Marks)**
- (b) A company has two plants- one at Sambalpur and the other at Bilaspur, where production of goods takes place. **(12 Marks)**

The basic raw material requirement is 80% of the finished product, by weight. Such materials are available locally, but are limited to 6,000 M.T. at Rs.1,800 per M.T at Sambalpur and 1,6000 M.T. at Rs.2,000 per M.T. at Bilaspur. Any extra requirements will have to be procured from Jamshedpur at Rs.2,500 per M.T. Other details are as under:

	For unit at Sambalpur	For unit at Bilaspur
Annual output (M.T.)	12,000	15,000
Capacity utilization (%)	80	60
Other variables (Rs.lacs)	156	192
Fixed cost (Rs. lacs)	108	120

You are required to determine:

- (i) the cost break up of each unit per M.T of output;
- (ii) the quantity of production at each unit from the availability of local supplies of basic raw material only, by keeping the same total production of the company, as a whole;
- (iii) cost savings, if any, as per the revised schedule of production.

Question 4

- (a) What are the reasons to determine capacity? **(5 Marks)**
- (b) Briefly discuss on curvilinear CVP analysis. **(4 Marks)**
- (c) The stock control policy of a company is that, each stock is ordered twice a year. The quantum of each order being one-half of the year's forecast demand. **(10 Marks)**

The materials manager, however, wishes to introduce a policy in which for each item of stock, reorder levels and EOQ is calculated.

For one of the items X, the following informations is available :

Forecast annual demand	3,600 units
Cost / unit	Rs.100
Cost of placing an order	Rs.40
Stock holding cost	20% of average stock value
Lead time	1 month.

It is estimated by the materials manager that for item X, a buffer stock of additional 100 units should be provided to cover fluctuations in demand.

If the new policy is adopted, calculate for stock item X:

- the reorder level that should be set by the material manager;
- the anticipated reduction in the value of the average stock investment;
- the anticipated reduction in total inventory costs in the first and subsequent years.

Question 5

- (a) State the relative economics of the “make vs. buy” decision in management control. **(7 Marks)**
- (b) C Ltd., an Indian Company, has entered into an agreement of strategic alliance with Z Inc. of United States of America for the manufacture of personal computers in India. Broadly, the terms of agreement are: **(12 Marks)**
- Z will provide C with kits in a dismantled condition. These will be used in the manufacture of the personal computer in India. On a value basis, the supply, in terms of the FOB price will be 50% thereof.
 - C will procure the balance of materials in India.
 - Z will provide to C with designs and drawings in regard to the materials and supplies to be procured in India. For this, C will pay Z a technology fee of Rs.3 crores.
 - Z will also be entitled to a royalty at 10% of the selling price of the computers fixed for sales in India as reduced by the cost of standard items procured in India and also the cost of imported kits from Z.
 - C will furnish to Z detailed quarterly returns.

Other information available :

- FOB price agreed \$ 510. Exchange rate to be adopted \$ 1 = Rs.47.059 [Note: In making calculations, the final sum may be rounded to the next rupee].
- Insurance and project – Rs.500 per imported kt;
- Customs duty leviable is 150% of the CIF prices; but as a concession, the actual rate leviable has been fixed at 30% of CIF;
- The technology agreement expires with the production of 2,00,000 computers.
- The quoted price on kits includes a 20% margin of profits on cost to Z;
- The estimated cost of materials and supplies to be obtained in India will be 140% of the cost of supplies made by Z.
- 48% of the value in rupees of the locally procured goods represent cost of the standard items.
- Cots of assembly and other overheads in India will be Rs.2,000 per personal computer.

Required: Calculate the selling price of a personal computer in India bearing in mind that C has targeted a profit of 20% to itself on the selling price.

Question 6

- (a) What are the differences between Cost Control and Cost Reduction ? Discuss. **(8 Marks)**
- (b) A company manufactures two types of herbal product, A and B. Its budget shows profit figures after apportioning the fixed cost of Rs.15 lacs in the proportion of the numbers of units sold. The budget for 2002, indicates; **(11 Marks)**

	A	B
Profit (Rs.)	1,50,000	30,000
Selling price / unit (Rs.)	200	120
P/V ratio (%)	40	50

You are required to advise on the best option among the following , if the company expects that the number of units to be sold would be equal.

- (i) Due to change in a manufacturing process, the joint fixed cost would be reduced by 15% and the variable would be increased by 7 ½%;
- (ii) Price of A could be increased by 20% as its is expected that the price elasticity of demand would be unity over the range of price;
- (iii) Simultaneous introduction of both the options, viz., (i) and (ii) above.