

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

Question No.1 is compulsory

Answer any four questions from the rest.

Working notes should form part of the answer.

**Question 1**

- (a) State the non-cost factors to be considered in make / buy decisions. **(4 Marks)**
- (b) What is Penetration Pricing? What are the circumstances in which this policy can be adopted? **(4 Marks)**
- (c) A company manufactures two products P and Q. Both the products pass through the company's two departments, A and B. The market demand for a month is 2,500 units of P and 2,000 units of Q. The company has a normal capacity of 600 hours in department A and 520 hours in department B per month. Overtime is acceptable upto 50% of normal hours in each department. The details relating to the products are as under:

	Products	
	P	Q
Direct material cost per unit	Rs.10	5
Fixed overheads per month	Rs.18,000	6,400
	Departments	
	A	B
Direct labour time per unit (minutes)		
Product : P	6	12
Q	18	12
Direct wage rate per hour		
Normal time	Rs.10	12
Overtime	Rs.15	18

In the event of the company not being able to fulfill the demand for want of capacity, the balance quantity of the products can be sold by buying from a sub-contractor, who has agreed to supply product P at Rs.18 and product Q at Rs.12 per unit.

Required :

- (i) Calculate the quantity of each product to be manufacture and / or to be sub-contracted in a most economical way of fulfilling the market demand.
- (ii) Present a statement showing the total costs involved in your solution (i) above.

**Question 2**

- (a) Comment on the use of opportunity cost for the purpose of : **(4 Marks)**
- i. Decision – making; and
  - ii. Cost control.
- (b) State three applications of direct costing. **(3 Marks)**
- (c) A company had nearly completed a job relating to construction of a specialized equipment, when it discovered that the customer had gone out of business. at this state, the position of the job was as under: **(12 Marks)**

	Rs.
Original cost estimated	1,75,200
Cost incurred so far	1,48,500
Costs to be incurred	29,700
Progress payments received from original customer	1,00,000

After searches, a new customer for the equipment has been found. He is interested to take the equipment, if certain modifications are carried out. The new customer wanted the equipment in its original condition, but without its control device and with certain other modifications. The costs of these additions and modifications are estimated as under:

Direct materials (at cost)	Rs.1,050
Direct wages Deptt. A	15 man days
Deptt. B	25 man days
Variable overheads	25% of direct wages in each department
Delivery costs	Rs.1,350

Fixed overheads will be absorbed at 50% of direct wages in each department.

The following additional information is available:

- (1) The direct materials required for the modification are in stock and if not used for modification of this order, they will be used in another job in place of materials that will now cost Rs.2,250.
  - (2) Department A is working normally and hence any engagement of labour will have to be paid at the direct wage rate of Rs.120 per man day.
  - (3) Department B is extremely busy. Its direct wage rate is Rs.100 per man day and it is currently yielding a contribution of Rs.3.20 per rupee of direct wages.
  - (4) Supervisory overtime payable for the modification is Rs.1,050.
  - (5) The cost of the control device that the new customer does not require is Rs.13,500. If it is taken out, it can be used in another job in place of a different mechanism. The latter mechanism has otherwise to be bought for Rs.10,500. The dismantling and removal of the control mechanism will take one man day in department A.
  - (6) If the convention is not carried out, some of the materials in the original equipment can be used in another contract in place of materials that would have cost Rs.12,000. It would have taken 2 man days of work in department A to make them suitable for this purpose. The remaining materials will realize Rs.11,400 as scrap. The drawings, which are included as part of the job can be sold for Rs.1,500.
- You are required to calculate the minimum price, which the company can afford to quote for the new customer as stated above.

### Question 3

- (a) Define defectives and state their treatment in Cost Accounts. **(4 Marks)**
- (b) Enumerate the factors involved in decision relating to expansion of capacity. **(3 Marks)**
- (c) A Company is engaged in the manufacture of edible oil. It has three divisions as under: **(12 Marks)**
  - i. Harvesting oil seeds and transportation thereof to the oil mill.
  - ii. Oil Mill, which processed oil seeds and manufacture edible oil.
  - iii. Marketing Division, which packs the edible oil in 2 kg. containers for sale at Rs.150 each container.

The Oil Mill has a yield of 1,000 kgs of oil from 2,000 kg of oil seeds during a period. The Marketing Division has a yield of 500 cans of edible oil of 2 kg. each from every 1,000 kg. of oil. The net weight per can is 2 kg. of oil.

The cost data for each division for the period are as under:

Harvesting Division :	
Variable cost per kg. of oil seed	Rs.2.50
Fixed cost per kg. of oil seed	Rs.5.00
Oil Mill Division :	
Variable cost of processed edible oil	Rs.10.00 per kg.
Fixed cost of processed edible oil	Rs.7.50 per kg.
Marketing Division	
Variable cost per can of 2 kg. of oil	Rs.3.75
Fixed cost per can of 2 kg of oil	Rs.8.75

The fixed costs are calculated on the basis of the estimated quantity of 2,000 kg. of oil seeds harvested, 1,000 kg. of processed oil and 500 cans of edible oil packed by the aforesaid divisions respectively during the period under review.

The other oil mills buy the oil seeds of same quality at Rs.12.50 per kg. in the market. The market price of edible oil processed by the oil mill, if sold without being packed in the marketing division is Rs.62.50 per kg. of oil.

Required :

- (i) Compute the overall profit of the company of harvesting 2,000 kg of oil sees, processing it into edible oil and selling the same in 2 kg. cans as estimated for the period under review.
- (ii) Compute the transfer prices that will be used for internal transfers from (1) Harvesting Division to Oil Mill Division and (2) from Oil Mill Division to Marketing Division under the following pricing methods.
  - 1. shared contribution in relation to variable costs; and
  - 2. market price.
- (iii) Which transfer pricing method will each divisional manager prefer to use?

**Question 4**

- (a) Explain with one example each that sunk costs is irrelevant in making decisions, but irrelevant costs are not sunk costs. **(2 Marks)**
- (b) State the features of Partial Plan of Standard Cost Accounting Procedure. **(4 Marks)**
- (c) The following is the Operating Statement of a company for April, 2001: **(13 Marks)**

			Rs.	
Budgeted profit				1,00,000
Variances :	Favourable Rs.	Adverse Rs.		
Sales Volume				4,000
Price	9,600			
Direct Material - Price				4,960
Usage				6,400
Direct Labour - Rate				3,600
Efficiency	3,600			
Rate Overheads- Efficiency	2,400			
Capacity				4,000
Expense	1,400			
	17,000	22,960		5,960A
Actual profit				94,040

Additional information is as under:

Budget for the year 1,20,000 units  
 Budgeted fixed overheads Rs.4,80,000 per annum.

Standard cost of one unit of product is :

Direct materials 5 kg @ Rs.4 per kg.  
 Direct labour 2 hours @ Rs.3 per hour.

Fixed overhead are absorbed on direct labour hour basis.

Profit 25% on sales.

You are required to prepare the Annual Financial Profit / Loss Statement for April, 2001 in the following format:

Account	Qty./Hrs.	Rate / Price	Actual value Rs.
Sales			
Direct Materials			
Direct Labour			
Fixed Overhead			
Total costs			
Profit			

**Question 5**

- (a) Discuss the scope of cost reduction in the area of works services. **(5 Marks)**
- (b) What are the pre-requisites of responsibility accounting? **(4 Marks)**
- (c) In 19 × 1, the turnover of a company, which operated at a margin of safety of 25% amounted to Rs.9,00,000 and its profit volume ratio was 33 1/3%. During 19 × 2, the company estimated that although the same volume of sales as in 19 × 1 would be maintained, the sales value would go down due to decrease in selling price. There will be no change in variable costs. The company proposes to reduce its fixed costs through an intensive cost reduction programme. These changes will alter the profit volume ratio and margin of safety to 30% and 40% respectively in 19 × 2. Even if the company closed down its operations in 19×2, it would incur a minimum fixed cost of Rs.50,000.  
Required :
- (i) Present a comparative statement indicating the sales, variable costs, fixed costs and profit for 19×1 and 19×2.
- (ii) At what minimum sales will the company be better off by locking up in business in 19×2?

**Question 6**

- (a) What is Management Control System? State three essential characteristics of a Sound Management Control System. **(5 Marks)**
- (b) Enumerate the limitations of using the marginal costing technique. **(5 Marks)**
- (c) A company operates its plant on single shift basis. It can produce upto 8,000 units of output per month without overtime. The fixed costs on single shift basis of operation amount to Rs.30,00 per month. The average variable cost per units is Rs.10. **(9 Marks)**  
The output can be increased upto 15,000 units per month by working overtime. This entails no increase in fixed costs, but the variable costs per unit during overtime will be Rs.12 in excess of 8,000 units upto the capacity of 15,000 units.  
If a second shift is worked, the maximum capacity of the second shift is 8,000 units per month. The variable cost on second shift operation is Rs.10.50 per unit and the incremental fixed cost involved in the second shift is Rs.6,000 per month.  
Required :
- (i) If the company's demand for the product is 10,000 units, should the company work overtime or second shift ?
- (ii) At what level of output will the company consider working second shift instead of working overtime? State the range of output for overtime working and second shift operation.
- (iii) During a particular month, the company predicted its demand to be 14,000 units and worked second shift. At the end of the month it was discovered that the company's demand was only 11,000 units and the company accordingly produced only 11,000 units. Calculate the cost of prediction error.