

**PAPER 5: COST MANAGEMENT
NOVEMBER 2006**

Question 1 is compulsory.
Answer any four from the rest.
Working notes should form part of your answer.

Question 1

(a) X Ltd., manufactures a semi-conductor for which the cost and price structure is given below:

	Rs. Per Unit
Selling Price	500
Direct Material	150
Direct Labour	100
Variable Overhead	50
Fixed Cost = Rs.2 Lakhs.	

The product is manufactured by a machine, whose spare part costing Rs.2,000 needs replacement after every 100 pieces of output. This is in addition to the above costs. Assume that no defectives are produced and that the spare part is readily in the market at all times at Rs.2,000.

- (i) Prepare profitability statement for production levels of 2,000 units and 3,000 units, when Fixed Cost=Rs.1 Lakh. **(4 Marks)**
- (ii) What is the Break Even Point (BEP) for the above data? **(4 Marks)**
- (iii) Comment on the BEP, if the Fixed Cost can be reduced to Rs.1,80,000 from the existing level of Rs.2 Lakhs. **(6 Marks)**
- (b) Give two examples for each of the following categories in activity based costing: **(4 Marks)**
- i. Unit level activities
 - ii. Batch level activities
 - iii. Product level activities
 - iv. Facility level activities.
- (c) Outline the features of penetration pricing strategy.

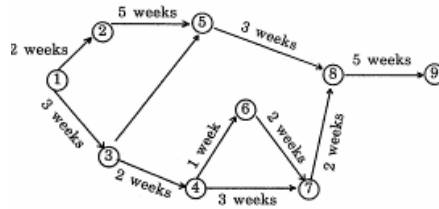
Question 2

(a) A BPO company is taking bids for 4 routes in the city to ply pick up an drop cabs. Four companies have made bids as detailed below: **(6 Marks)**

Bids for Routes(Rs.)				
Company / Routes	R ₁	R ₂	R ₃	R ₄
C ₁	4,000	5,000	--	--
C ₂	--	4,000	--	4,000
C ₃	3,000	--	2,000	--
C ₄	--	--	4,000	5,000

Each bidder can be assigned only one route. Determine the minimum cost that the BPO should incur.

- (b) A network is given below:
- i. Name the paths and give their total duration.
 - ii. Give three different ways of reducing the project above duration by four days.



- (c) Division Z is a profit centre which produces four products A, B C and D. Each product is sold in the external market also. Date for the period is : (7 Marks)

	A	B	C	D
Market price per unit(Rs.)	150	146	140	130
Variable cost of pdn. per unit (Rs.)	130	100	90	85
Labour hours required per unit	3	4	2	3

Product D can be transferred to division Y, but the maximum quantity that may be required for transfer is 2,500 units of D.

The maximum sales in the external market are:

- A 2,800 units
- B 2,500 units
- C 2,300 units
- D 1,600 units

Division Y can purchase the same product at a price of Rs.125 per unit from outside instead of receiving transfer of product D from Division Z.

What should be the transfer price for each unit for 2,500 units of D, if the total labour hours available in division Z, are 20,000 hrs?

Question 3

- (a) A Multinational company runs a Public Medical Health Centre. For this purpose, it has hired a building at a rent of Rs.10,000 per month with 5% of total taking. Health centre has three types of wards for its patients namely. General ward, cottage ward and Deluxe ward. State the rent to be charged to each bed-day for different type of ward on the basis of the following informations: (12 Marks)

- i. The number of beds of each type are General ward 100, Cottage ward 50, Deluxe ward 30.
- ii. The rent of cottage ward bed is to be fixed at 2.5 times of the General ward bed and that of Deluxe ward bed as twice of the cottage ward bed.
- iii. The occupancy of each type of ward is as follows:
General ward 100%, Cottage ward 80% and Deluxe ward 60%. But, in general ward there were occasions when beds are full, extra beds were hired at a charges of Rs.20 per bed. The total hire charges for the extra beds incurred for the whole year amount to Rs.12,000.
- iv. The Heath Centre engaged a heart specialist from outside and on an average fees paid to him was Rs.15,000 per trip. He makes three trips in the whole year.
- v. The other expenses for the year were as under:

	Rs.
Salary of supervisors, nurses, ward boys	4,25,000
Repairs and maintenance	90,000
Salary of doctors	13,50,000
Food supplied to patients	40,000
Laundry charges for their bed linens	80,500
Medicines supplied	74,000
Cost of oxygen, x-ray, etc other than directly borne for treatment of patients	49,500
General administration charges	63,000

- vi. Provide profit @20% on total taking.
- vii. The Heath Centre imposes 8% service tax on rent received.
- viii. 360 days may be taken in a year.

- (b) (i) What is simulation? **(1 Mark)**
(ii) What are the steps in simulation? **(4 Marks)**
- (c) Briefly explain the learning curve ratio. **(2 Marks)**

Question 4

- (a) A company following standard marginal costing system has the following interim trading statement for the quarter ending 30th June, 2005, which reveals a loss of Rs.17,000, detailed below: **(13 Marks)**

	Rs.
Sales	4,99,200
Closing stock (at prime cost)	<u>18,000</u>
	5,17,200
Costs :	
Direct material	1,68,000
Direct labour	1,05,000
Variable overhead	<u>42,000</u>
	3,15,000
Fixed overhead	1,20,000
Fixed Admin. OH	40,000
Variable distribution OH	19,200
Fixed selling OH	<u>40,000</u>
	2,19,200
Total costs	<u>5,34,000</u>
Loss	<u>17,000</u>

Additional information is as follows:

- (i) Sales for the quarter were 1,200 units. Production was 1,400 units, of which 100 units were scrapped after complete manufacture. The factory capacity is estimated at 2,000 units.
- (ii) Because of low production, labour efficiency during the quarter is estimated to be 20% below normal level.

You are required to analyze the above and report to the management giving the reasons for the loss.

- (b) List the steps involved in target costing process with the help of a block diagram. **(6 Marks)**

Question 5

- (a)
- i. What do you mean by ERP? **(2 Marks)**
- ii. Name six benefits of ERP in an enterprise. **(3 Marks)**
- (b) A project consists of seven activities for which relevant data are given below:
- i. Draw the network **(5 Marks)**
- ii. Name and highlight the critical path **(1 Mark)**

Activity	Preceding activity	Activity duration (days)
A	--	4
B	--	7
C	--	6
D	A,B	5
E	A,B	7
F	C,D,E	6
G	C,D,E	5

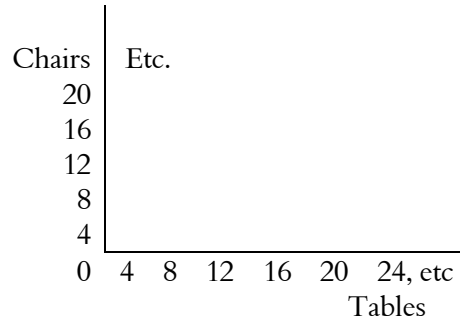
- (c) A Ltd., makes 2 products, Tables (T) and Chairs (C), which must be processed through Assembly (A) and Finishing (F) departments. Assembly has 60 hours available per week; finishing can handle upto 48 hours a week.

Manufacture of one table requires 4 hours of assembly and 2 hours in finishing. Each chairs requires 2 hours in assembly and 4 hours in finishing.

Profit is Rs.80 per table and Rs.60 per chair. Choose the best combination of chairs and tables to be produced to maximize profit.

- i. Formulate the linear programming model equations.
- ii. Present graphically.
- iii. What is the maximum profit?

Use the graph provided as follows:



Question 6

- (a) The following figures are available. Find out the missing figures, giving appropriate formulae: **(8 Marks)**

	Rs.		
Budgeted profit	15,000		
Less :		Adverse variances :	
		Contribution price variance	10,600
		Direct material variance	1,000
		Fixed overhead variance	600
			(12,200)
			2,800
Add:		Favourable Variances	
		Contribution quantity variance	1,800
		Direct wages variance	600
		Variable overhead variance	1,800
			4,200
		Actual profit	7,000

There is no inventory

Production units = sales units for both actual and budget.

Other information:

Standard selling price	Rs.18 / unit
Std. variable cost	Rs.15 / unit
Std. contribution	Rs.3 / unit
Actual selling price	Rs.17 / unit
Budgeted sales	10,000 units

Standard material cost p.u. = Re.1 (which is 5 kg. @ Rs.20 paise/kg)

Material usage variance = 400 (Adv.)

Actual labour hours @ actual rate = Rs.63,000

Actual labour hours @ std. rate = Rs.61,950

Variable overhead standard rate = Rs.2

Std. hrs of production = 4 per unit

Variable overhead at std. rate = Rs.84,800

Variable overhead expenditure variance = 400 (A)

Budgeted fixed overhead = Rs.15,000

Find out the following :

- (i) Actual sales units
 - (ii) Actual sales rupees
 - (iii) Actual quantity of raw materials used
 - (iv) Labour efficiency variance
 - (v) Actual variable overhead in rupees
 - (vi) Variable overhead efficiency variance
 - (vii) Actual fixed overheads
 - (viii) Operating profit variance.
- (b) Under the single plan, record the journal entries giving appropriate narration, with indication of amounts of debits or credits alongside the entries, for the following transactions using the respective control A/c. **(6 Marks)**
- i. Material price variance (on purchase of materials)
 - ii. Material usage variance (on computation)
 - iii. Labour rate variance.
- (c) Explain with a diagram the value chain activities within the firm with suitable classifications under primary and support activities and also the industry value chain indicating what the end use consumer pays for. **(5 Marks)**