PAPER 5: COST MANAGEMENT
MAY 1999

Question No.1 is compulsory

Answer any four questions from the rest.

Working notes should form part of the answer.

Question 1

(a) What is margin of safety ? How can margin of safety be improved? **(4 Marks)**

(b) What are the pre-requisites for a Responsibility Accounting System? **(4 Marks)**

(c) Briefly explain the concept of value analysis as a cost reduction technique. **(4 Marks)**

(d) Anuradha Enterprises manufactures and sells black phenyl worth Rs.20,000, while phenyl worth Rs.25,000, scented phenyls worth Rs.10,000 and naphthalene balls worth Rs.5,000 every month. The family's total fixed cots per month are Rs.14,700. The variable cots are : on black phenyl 60% on white phenyl 68%, on scented phenyl 80% and on naphthalene balls 40%.

The proprietrix, Ms.Anuradha Shah, being basically a science graduate, wonders at what combined sales volume does she really start earning profit. Please help her in arriving at such a sales volume.

Question 2

(a) Briefly explain the terms "product cost" and "period cost". **(4 Marks)**

(b) Distinguish between "marginal cost" and "differential cost". **(5 Marks)**

(c) A Firm needs a component in an assembly operation. If it wants to do the manufacturing itself, it would need to buy a machine for Rs.4 lakhs which will last for 4 years with no salvage value. Manufacturing costs n each of the 4 years would be Rs.6 lakhs, Rs.7 lakhs, Rs.8 lakhs and Rs.10 lakhs respectively. If the firm had to buy the components from a supplier, the cost would be Rs.9 lakhs, Rs.10 lakhs, Rs.11 lakhs and Rs.14 lakhs respectively in each of the four years. However, the machine would occupy floor space which would have been used for another machine. This latter machine would be hired at no cost to manufacture an item, the sale of which would produce net cash flows in each of the four years of Rs.2 lakhs. It is impossible to find room for both the machines and there are no other external effects. The cost of capital is 10% and the present value factor for each of the four years is 0.909, 0.826, 0.751 and 0.683 respectively. **(10 Marks)**

Should the firm make the components or buy from outside?

Question 3

(a) "Calculation of variance in standard costing is not an end in itself, but a means to an end". Discuss. **(7 Marks)**

(b) Mahila Griha Udyog Industries is considering to supply its products – a special range of namkeens - to a departmental store. The contract will last for 50 weeks, and the details are given below: **(12 Marks)**

Material :	Rs.
X (in stock – at original cost)	1,50,000
Y (on order – on contract)	1,80,000
Z (to be ordered)	3,00,000
Labour :	
Skilled	5,40,000
Non – skilled	3,00,000
Supervisory	1,00,000
General overheads	10,80,000
Total cost	26,50,000
Price offered by department store	18,00,000
Net loss	8,50,000

Should the contract be accepted if the following additional information is considered ?

(i) Material X is an obsolete material. It can only be used on another product, the material for which is available at Rs.1,35,000 (Material X requires some adaptation to be used and costs Rs.27,000)

(ii) Material Y is ordered for some other product which is no longer required. It now has a residual value of Rs.2,10,000.
(iii) Skilled labour can work on other contracts which are presently operated by semi-skilled labour at a cost of Rs.5,70,000.
(iv) Non – skilled labour are specifically employed for this contract.
(v) Supervisory staff will remain whether or not the contract is accepted. Only two of them can replace other positions where the salary is Rs.35,000.
(vi) Overheads are charged at 200% of skilled labour. Only Rs.1,25,000 would be avoidable, if the contract is not accepted.

Question 4

(a) What are the limitations of a break-even chart? **(5 Marks)**

(b) Despite the increase in the Sales price of its sole product to the extent of 20%, a company finds that it has incurred a loss during the year 1998-99 to the extent of Rs.4 lakhs as against a profit of Rs.5 lakhs made in 1997-98. This adverse situation is attributed mainly to the increase in prices of materials and overheads, the increase over the previous year being, on the average , 15% and 10% respectively. **(14 Marks)**

The following figures are extracted from the books of the company:

	31.3.98	31.3.99
	Rs.	Rs.
Sales	1,20,0,000	1,29,60,000
Cost of sales		
Material	80,00,000	91,10,000
Variable overhead	20,00,000	24,00,000
Fixed overhead	15,00,000	18,50,000

Required : Analyze the variances curve the year in order to bring out the reasons for the fall in profit.

Question5

The Financial controller of ACE Ltd., has prepared the following estimates of working results for the year ending 31st March, 1999: **(19 Marks)**

		Year ending 31-3-1999
Direct material	Rs./unit	16.00
Direct wages	Rs./unit	40.00
Variable overheads	Rs./unit	12.00
Selling price	Rs./unit	125.00
Fixed expenses	Rs.	6,75,000 p.a.
Sales	Rs.	25,00,000 p.a

During the year 1999-2000, it is expected that the material prices and variable overheads will go up by 10% and 5% respectively. As a result of re-engineering of business processes, the overall direct labour efficiency will increase by 12%, but the wage rate will go up by 5%. The fixed overheads are also expected to increase by Rs.1,25,000.

The Vice-President - manufacturing states that the same level of output as obtained in 1998-1999 should be maintained in 1999-2000 also and efforts should be made to maintain the same level of profit by suitably increasing the selling price.

The Vice – President – Marketing states that the market will not absorb any increase in the selling price. On other hand, he proposes that publicity involving advertisement expenses as given below will increase the quantity of sales as under:

Advertisement Expenses	(Rs.)	80,000	1,94,000	3,20,000	4,60,000
Additional units of sales		2,000	4,000	6,000	8,000

Required :

(a) Present an Income Statement for 1999-2000.
(b) Find the revised price and the percentage of increase in the price for 1999-2000, if the views of the Vice – President - Manufacturing are accepted.

(c) Evaluate the four alternative proposals put forth by the Vice - President – Marketing. Determine the best output level to be budgeted and prepare an over-all Income Statement for 1999-2000 at that level of output.

Question 6

(a) Enumerate the circumstance which are favorable for the adoption of a penetrating pricing policy. **(4 Marks)**

(b) Give any **three** examples of opportunity cost. **(3 Marks)**

(c) The details of the output presently available from a manufacturing department of Hitech Industries Ltd., are as follows: **(12 Marks)**

Average output per week	48,00 units from 160 employees
Saleable value of output	Rs.6,00,000
Contribution made by the output towards fixed expenses and profit	Rs.2,40,000

The Board of Directors plans to introduce more automation in the department at a capital of Rs.1,60,000. the effect of this will be to reduce the number of employees to 120, but to increase the output per individual employee by 60%. To provide the necessary incentive to achieve the increased output the Board intends to offer a 1% increase in the piece work rate of one rupee per article for every 2% increase in average individual output achieved. To sell the increased output, it will be necessary to decrease the selling price by 4%.

Required :

Calculate the extra weekly contribution resulting from the proposed change and evaluate, for the Board's information, the worth of the project.