

PAPER 2- MANAGEMENT ACCOUNTING AND FINANCIAL ANALYSIS
MAY, 1999

Answer all Questions
 Working notes should form part of the answer.

Question 1

- (a) A company is considering two mutually exclusive projects X and Y. Project X costs Rs.30,000 and Project Y Rs.36,000. You have been given below the net present value probability distribution for each project: **(14 Marks)**

Project X		Project Y	
NPV Estimate	Probability	NPV Estimate	Probability
Rs.		Rs.	
3,000	0.1	3,000	0.2
6,000	0.4	6,000	0.3
12,000	0.4	12,000	0.3
15,000	0.1	15,000	0.2

- Compute the expected net present value of projects X and Y.
 - Compute the risk attached to each project i.e., Standard Deviation of each probability distribution.
 - Which project do you consider more risky and why?
 - Compute the probability index of each project.
- (b) Determine the risk adjusted net present value of the following projects: **(6 Marks)**

	A	B	C
Net cash outlays (Rs.)	1,00,000	1,20,000	2,10,000
Project life	5 years	5 years	5 years
Annual cash inflow (Rs.)	30,000	42,000	70,000
Coefficient of variation	0.4	0.8	1.2

The company selects the risk adjusted rate of discount on the basis of the coefficient of variation.

Coefficient of variation	Risk adjusted rate of discount	Present value factor 1 to 5 years at risk adjusted rate of discount
0.00	10%	3.791
0.4	12%	3.605
0.8	14%	3.433
1.2	16%	3.274
1.6	18%	3.127
2.0	22%	2.864
More than 2.0	25%	2.689

Question 2

- (a) X Co. Ltd., an Indian Company has to make payment of 3 million (30 lakhs) US Dollars after 6 months against import of plant and machinery. What are the different alternatives to hedge against this foreign currency exposure. Give explanations. **(7 Marks)**
- (b) Describe different kinds of float with reference to management of cash. **(3 Marks)**

- (c) C developed original specification of a product and founded C Manufacturing Ltd., In 1997 the firm manufactured 980 Nos. at an average price of Rs.900 each. In 1998, due to continuous price rise of the inputs, he raised his prices at an average of 12%, since he knew he could sell his plant's full capacity of 980 Nos. per year. In spite of price rise for the product, which sold for over Rs.1,000 for the first time, C was surprised to learn in late 1998 (as may be seen from the financial statements) that C Manufacturing Ltd., show a decline in earnings and still worse, decline in cash flow. **(10 Marks)**

His accountant has brought the following :

- We are following FIFO system for the purpose of issues.
- Costs are going up faster than 12% and they will go up further in 1999.
- We are not setting aside enough to replace the machinery; we need to set aside Rs.1,65,000, not Rs.1,50,000 so as to be able to buy new machinery.
- It is still not late to switch the LIFO for 1998. This will reduce closing inventory to Rs.3,30,000 and raise cost of goods sold.

C manufacturing Ltd., income statement (Rs.000)

	<u>1998</u>	<u>1998</u>
Sales	1,008	900
Cost of goods sold		
Opening inventory	320	250
Raw material	500	400
Labour	200	174
Depreciation	150	150
End inventory	<u>(390)</u>	<u>(320)</u>
Gross margin	228	246
Administration expenses	<u>100</u>	<u>92</u>
EBIT	128	154
Interest	<u>50</u>	<u>50</u>
	78	104
Income tax	<u>39</u>	<u>52</u>
Profit after tax	39	52
Add: Non cash expenses	150	150
Inventory change	<u>(70)</u>	<u>(70)</u>
Cash flow	<u>119</u>	<u>132</u>

Required:

- What is the weighted average inflation factory for the firm using LIFO?
- If the firm desires a 15 percent profit margin on sales, how much should the firm charge for the product per unit?

Question 3

- (a) Q Ltd., sells goods at a uniform rate of gross profit of 20% on sales including depreciation as part of cost of production. Its annual figures are as under: **(12 Marks)**

	Rs.
Sales (at 2 month's credit)	24,00,000
Materials consumed (suppliers credit 2 months)	6,00,000
Wages paid (Monthly at the beginning of the subsequent month)	4,80,000
Manufacturing expenses (Cash expenses are paid – one month in arrear)	6,00,000
Administration expense (Cash expenses are paid – one month in arrear)	1,50,000
Sales promotion expenses (paid quarterly in advance)	75,000

The company keeps one month stock each of raw materials and finished goods. A minimum cash balance of Rs.80,000 is always kept. The company wants to adopt a 10% safety margin in the maintenance of working capital.

The company has no work in progress.

Find out the requirements of working capital of the company on cash cost basis.

(b) Briefly indicate the causes of industrial sickness in India.

(8 Marks)

EITHER

Question 4

(20 Marks)

G Ltd., will commence operations at the beginning of the year and the budgets for activity and costs for the first three quarters of operation are shown below:

	Budgets- Quarters I, II and III		
	I 1-3	II 4-6	III 7-9
Period covered – months			
Activity :			
Sales (units)	9,000	17,000	15,000
Production (units)	10,000	20,00	15,000
Costs : (Rs.000)			
Direct materials:			
A	50	100	75
B	40	80	60
Production labour	180	285	230
Factory overheads (excluding depreciation)	80	110	95
Depreciation of production machinery	14	14	14
Administration expenses	30	30	30
Selling & distribution expenses	29	37	35
Total costs	423	656	539

Note:

Variable labour costs become 50% higher for activity in excess of 19,000 units per quarter due to the necessity of overtime working.

In quarter IV, the sales volume could range from an extreme low of 15,000 units to an extreme of 21,000 units, but most likely of 18,000 units.

In month 9, it will be possible to accurately estimate sales for Quarter IV and the production level for that quarter will be set equal to the sales volume.

Activity for each quarter is spread evenly throughout that quarter.

Cost structures will remain same in Quarters I to III, but are expected to differ in Quarter IV only in the following aspects :

- (i) Material A will rise in price by 20%
- (ii) All production labour wage rate will increase by 12 ½%. Variable labour input per unit of output will decrease (due to learning curve effect) to 80%.
- (iii) The threshold of overtime working remains at 19,000 units.
- (iv) Fixed factory overheads and the fixed element of selling and distribution costs will each rise by 20%.

The effect of these changes is considered too small to require a change in the standard cost per unit of Rs.30 which is used for stock valuation.

Required:

- Produce a statement which analyses under each cost classification given in the budgets, the variable cost per unit and the fixed costs which will be effective in Quarter IV.
- Prepare a flexible budget of estimated costs for Quarter IV with step points which will facilitate simple interpretation of costs for the most likely levels.

Or

A large profit making company is considering the installation of a machine to process the waste produced by one of its existing manufacturing process to be converted into a marketable product. At present, the waste is removed by a contractor for disposal on payment by the company of Rs.50 lacs per annum for the next four years. The contract can be terminated upon installation of the aforesaid machine on payment of a compensation of Rs.30 lacs before the processing operation starts. The compensation is not allowed as deduction for tax purposes.

The machine required for carrying out the processing will cost Rs.200 lacs to be financed by a loan repayable in 4 equal instalments commencing from the end of year 1. The interest rate is 16% per annum. At the end of the 4th year, the machine can be sold for Rs.20 lacs and the cost of dismantling and removal will be Rs.15 lacs.

Sales and direct costs of the product emerging from waste processing for 4 years are estimated as under:Rs. in lacs

Year	1	2	3	4
Sales	322	322	418	418
Material consumption	30	40	85	85
Wages	75	75	85	100
Other expenses	40	45	54	70
Factory overheads	55	60	110	145
Depreciation (as per income tax rules)	50	38	28	21

Initial stock of materials required before commencement of the processing operations is Rs.20 lacs at the start of year 1. The stock levels of materials to be maintained at the end of year 1, 2 and 3 will be Rs.55 lacs and the stocks at the end of the year 4 will be nil. The storage of materials will utilize space which would otherwise have been rented out for Rs.10 lacs per annum. Labour costs include wages of 40 workers, whose transfer to this process will reduce idle time payments of Rs.15 lacs in year 1 and Rs.10 lacs in year 2. Factory overheads include apportionment of general factory overheads except to the extent of insurance charges of Rs.30 lacs per annum payable on this venture. The company's tax rate is 50%.

Present value factors for four years are as under:

Year	1	2	3	4
Present value factors	0.870	.0756	0.658	0.572

Advise the management on the desirability of installing the machine for processing the waste. All calculations should form part of the answer.

Question 5

Write short notes on :

(4×5=20 Marks)

- Methods of Venture Capital Financing.
- Systematic and Unsystematic Risk in connection with Portfolio Investment.
- Factors influencing the dividend policy of the firm.
- Special features of Financial Management in a public sector undertaking.