

PAPER 2- MANAGEMENT ACCOUNTING AND FINANCIAL ANALYSIS
MAY, 2000

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

Question 1

- (a) Company X is forced to choose between two machines A and B. The two machines are designed differently, but have identical capacity and do exactly the same job. Machine A costs Rs.1,50,000 and will last for 3 years. It costs Rs.40,000 per year to run. Machine B is an “economy” model costing only Rs.1,00,000, but will last only for 2 years, and costs Rs.60,000 per year to run. These are real cash flows. The costs are forecasted in rupees of constant purchasing power. Ignore tax. Opportunity cost of capital is 10 percent. Which machine company X should buy? **(12 Marks)**
- (b) Company Y is operating an elderly machine that is expected to produce a net cash inflow of Rs.40,000 in the coming year and Rs.40,000 next year. Current salvage value is Rs.80,000 and next year's value is Rs.70,000. The machine can be replaced now with a new machine, which costs Rs.1,50,000, but is much more efficient and will produce a cash inflow of Rs.80,000 a year for 3 years. Company Y wants to know whether it should replace the equipment now or wait a year with the clear understating that the new machine is the best of the available alternatives that it in turn be replaced at the optimal point. Ignore tax. Take opportunity cost of capital as 10 per cent. Advise with reasons. **(8 Marks)**

Question 2

- (a) A private university with a current enrolment of 12,000 students is reviewing cost and revenue data for the past academic year. Student tuition is Rs.3,600 a year. Tuition normally covers 75 percent of university expenditures. The remaining 25 percent comes from endowments and contributions. During the last academic year fixed costs amounted to Rs.300 lakhs. The rest of the costs varied with student enrolment. Cost have been rising broke even last year. A tuition increase is being contemplated. The budget committee thinks endowment revenues and contributions will remain constant at last year's level for the next several years.
- The fixed costs are expected to increase by Rs.30 lakhs and the variable costs are expected to increase by 10 percent. The president of the university tells the budget committee that he expects a new grant of Rs.50 lakhs in addition to the normal contributions for each of the next 5 years from a large in addition to the normal contributions for each of the next 5 years from a large corporation owned by an alumnus of the university. The university has been postponing a number of major capital improvements and building projects.

Required :

- (i) If the grant is received and tuition is raised to Rs.4,200, how much money would the university have available in the first year for capital improvements and building with student enrolment of 11,200 and the expected cost increases?
- (ii) If the grant is received and costs increases as predicted for the coming year, what tuition should the university charge to break-even with its current enrolment of 12,000 students after providing Rs.40.40 lakhs for capita improvements? **(12 Marks)**

Question 3

- (a) John inherited the following securities on his uncle's death: **(8 Marks)**

Types of security	Nos.	Annual Coupon %	Maturity years	Yield %
Bond A(Rs.1,000)	10	9	3	12
Bond B(Rs.1,000)	10	10	5	12
Preference shares C(Rs.100)	100	11	-	13*

Preference shares D(Rs.100)	100	12	-	13★
-----------------------------	-----	----	---	-----

*likelihood of being called at a premium over par.

Compute the current value of his uncle's portfolio.

- (b) Pollock Co. Pvt. Ltd., which is operating for the last 5 years, has approached Sudershan Industries for grant of credit limit on account of goods bought from the latter, annexing Balance Sheet and income statement for the last 2 years as below: **(12Marks)**

Pollock Co. Pvt. Ltd., - Balance Sheet (Rs.'000)

	Current year	Last year		Current year	Last year
Share capital Equity (Rs.10)	600	600	Plant & Equipment (less. Deprn)	1,500	1,400
Share premium	400	400	Land	750	750
Retained earnings	900	700	Total Fixed Trusts	2,250	2,150
Total equity	1,900	1,700	Inventories	580	300
First mortgage	200	300	Accounts receivables	350	200
Second mortgage	--	200	Marketable securities	120	120
Bonds	300	300	Cash	100	80
Long term liabilities	500	800	Total current assets	1,150	700
Accounts payable	300	60			
Notes payable	600	220			
Secured liabilities	100	70			
	1,000	350			
Total current liabilities	3,400	2,850		3,400	2,850

Pollock Co. Pvt. Ltd., - Income Statement (Rs.'000)

	Current year	Last year
Sales	5,980	5,780
Income from investments	20	20
Opening inventory	300	400
Total Mfg. Costs	4,200	3,200
Ending Inventory	(580)	(300)
	2,080	2,500
General and Admin. Exp.	950	750
Operating income	1,130	1,750
Interest exp.	60	62
EBT	1,070	1,688
Income tax	480	674
Net income after taxes	590	1,014
Dividend declared and paid		250

Sudersan Industries has established the following broad guidelines for granting credit limits to its customers :

- Limit Credit limit to 10% of net worth and 20% of the net working capital
- Not to given credit in excess of Rs.1,00,000 to any single customer.

You are required to detail the steps required for establishing credit limits to Pollock Co. Pvt. Ltd., In this case, what you consider to be reasonable credit limit?

EITHER

Question 4

Harbour Company, is a medium – sized producer of chemicals and Vinyl Coatings used in a variety of industrial processes. **(20 Marks)**

Last year, the company recorded over Rs.1,500 lakhs in sales, shoed net income after tax of Rs.250 lakhs and concluded a very successful year. For the year coming up, the firm expects a 10 percent improvement in its sales and operating income figures. Other relevant details – Total Assets Rs.2,200 lakhs, Debt Asset Ratio (i.e. Total Debts including Current liabilities) 31.8%, Earnings per share Rs.30.16 (No. of equity shares of Rs.10 paid up 80 lakhs); Dividend per share Rs.1.50.(These all relate to the last year).

Harbour Co. has been invited to bid on a long term contract to product a line of plastics for a large chemical company. It appears that the firm can easily get Rs.600 lakhs contract, which will yield an additional Rs.180 lakhs in operating income (EBIT). These figures are for next year only and the firm estimates even higher sales and profits in future years.

The production manager knows of a small plastics company located about three kilometers away from the present factory and has all the equipment needed to produce the new line of plastics and the company is presently for sale with a Rs.1,050 lakhs asking price (which represents largely the value of the assets). This company is available at the negotiated price of Rs.900 lakhs.

Harbour Co. has sufficient working capital to add the new plastic line, but does not have the cash to buy Rs.900 lakhs for machinery and equipment. The following financing options are available:

- i. Harbour Co., can borrow Rs.400 lakhs through a 12% mortgage on its main facilities. A mortgage company has indicated that it would help finance the plastic machinery with a Rs.500 lakhs, 12% mortgage. Harbour as per its policy wants to keep debt asset ratio below 40 per cent.
- ii. The company can probably issue upto 1,000 lakhs in 13% preferred stock or class A equity shares. If equity shares are issued, it could net Rs.50 per share.

Harbour Co. shares has traditionally traded at a 15/1 price –earnings multiple and it is expected that this will hold in the future. (Corporate Income Tax 50%).

Required:

1. Analysis needed to decide whether to accept the plastic project.
2. recommendation on the financing method of the project.

OR

Question 4

A new manufacturing company is to be incorporated from January 1, 2000. Its authorized capital will be Rs.2 crore divided into 20 lakh equity shares of Rs.10 each. It intends to raise capital by issuing equity shares of Rs.1 crore (fully paid) on 1st January. Besides, a loan of Rs.13 lakh @ 12% per annum will be obtained from a financial institution on 1st January and further borrowings will be made at the same rate of interest on the first day of the month in which borrowing is required. All borrowings will be repaid along with interest on the expiry of one year. The company will make payment of the following assets in January:

	Rs.(in lakh)
Plant and machinery	20
Land and building	40
Furniture	10
Motor vehicles	10
Stock of raw materials	10

The following further details are available:

(1) Projected Sales (January – June)

	Rs.(in lakh)		Rs.(in lakh)
January	30	April	40
February	35	May	40

March	35	June	45
-------	----	------	----

- (2) Gross profit margin will be 25% on sales.
- (3) The company will make credit sales only and these will be collected in the second month following sales.
- (4) Creditors will be paid in the first month following credit purchases. There will be credit purchases only.
- (5) The company will keep minimum stock of raw materials of Rs.10 lakh.
- (6) Depreciation will be charged at 10% per annum on cost on all fixed assets.
- (7) Payment of preliminary expenses of Rs.1 lakhs will be made in January.
- (8) Wages and salaries will be Rs.2 lakh each month and will be paid on the first day of the next month.
- (9) Administrative expenses of Rs.1 lakh per month will be paid in the month of their incurrence.

Assume no minimum required cash balance.

You are required to prepare the monthly cash budget (January – June), the projected Income Statement for the 6 month period and the projected Balance Sheet as on 30th June, 2000.

Question 5**(4×5=20 Marks)**

- (a) Impact of corporate taxation on corporate financing.