

PAPER – 2 : MANAGEMENT ACCOUNTING AND FINANCIAL ANALYSIS

Question No. 1 is compulsory. Answer any four question from the rest.

Figures in the margin indicate marks allotted to each question.

Working notes should form part of the answer.

Question 1

- (a) DL Services is in the business of providing home Services like plumbing, sewerage line cleaning etc. There is a proposal before the company to purchase a mechanized sewerage cleaning line for a sum of Rs. 20 lacs. The life of the machine is 10 years. The present system of the company is to use manual labour for the job. You are provided the following information:

|                       |                                                |
|-----------------------|------------------------------------------------|
| Cost of machine       | Rs. 20 lacs                                    |
| Depreciation          | 20% p.a. straight line                         |
| Operating cost        | Rs. 5 lacs per annum                           |
| Present system        |                                                |
| Manual labour         | 200 persons                                    |
| Cost of Manual labour | Rs. 10,000 (ten thousand) per person per annum |

The company has an after tax cost of funds of 10% per annum. The applicable rate of tax inclusive of surcharge and cess is 35%.

Based on the above you are required to:

- State whether it is advisable to purchase the machine.
- Compute the savings/additional cost as applicable, if the machine is purchased.

(12 Marks)

- (b) P Ltd. invested on 1.4.2006 in Equity shares as below:

| Company | Number of Shares     | Cost (Rs.) |
|---------|----------------------|------------|
| M Ltd.  | 1,000 (Rs. 100 each) | 2,00,000   |
| N Ltd.  | 500 (Rs. 10 each)    | 1,50,000   |

In September, 2006, M Ltd. paid 10% dividend and in October, 2006, N Ltd. paid 30% dividend.

On 31.3.2007, market price of shares of M Ltd. and N Ltd. were Rs. 220 and Rs. 290 respectively.

P Ltd. have been informed by their investment advisers that:

- Dividends from M Ltd. and N Ltd. for the year ending 31.3.2008 are likely to be 20% and 35% respectively.

(ii) Probabilities of market quotations on 31.3.2008 are:

| Probability<br>Factor | Price of share<br>of M Ltd. | Price of share<br>of N Ltd. |
|-----------------------|-----------------------------|-----------------------------|
| 0.2                   | 220                         | 290                         |
| 0.5                   | 250                         | 310                         |
| 0.3                   | 280                         | 330                         |

You are required to:

- Calculate the average return from the portfolio for the year ended 31.3.2007.
- Calculate the expected average return from the portfolio for the year 2007 – 08.
- Advise P Ltd. of the comparative risk of two investments by calculating the Standard deviation in each case. (8 Marks)

Answer

(a) Present System

|                                                                 |            |
|-----------------------------------------------------------------|------------|
| Cost per annum                                                  |            |
| 200 persons @ Rs.10,000 per annum                               | 20,00,000  |
| Cumulative Annuity factor at 10%                                | 6.1446     |
| Present value of cash outflow over a period of ten years at 10% | 122,89,200 |
| Tax benefit at 35% for 10 years                                 | 43,01,220  |
| Net cost over ten years                                         | 79,87,980  |

If machine is purchased

|                          |           |
|--------------------------|-----------|
| Cost of Machine          | 20,00,000 |
| Depreciation per annum   | 4,00,000  |
| Annual cost of operation | 5,00,000  |

|                                                     |           |
|-----------------------------------------------------|-----------|
| Present value of operating cost for 10 years at 10% | 30,72,300 |
| Tax saving on operating cost at 35% for 10 years    | 10,75,305 |
| Net operating cost                                  | 19,96,995 |
| Annuity factor for 5 years at 10%                   | 3.7908    |
| Tax saving on depreciation at 35%                   | 5,30,712  |

Summary

|                    |           |
|--------------------|-----------|
| Outflow on machine | 20,00,000 |
|--------------------|-----------|

|                                             |           |
|---------------------------------------------|-----------|
| Less: Tax saving on depreciation of Machine | -5,30,712 |
| Add: Operating cost over 10 years           | 19,96,995 |
| Total cost of machine over 10 years         | 34,66,283 |
| Total saving                                | 45,21,697 |

Since there is a saving of Rs.45.21 lacs it is advisable to purchase the machine.

Alternative Solution:

Calculation of Savings in operating cost if the mechanized cleaning line is purchased:

|                                                           |           |
|-----------------------------------------------------------|-----------|
| Annual Cost of the present system – cost of manual labour | Rs. lakhs |
| 200 persons × Rs.10,000                                   | 20.00     |
| Less: Operating cost with the new line                    | 5.00      |
| Annual Savings                                            | 15.00     |

Calculation of incremental cash in flows if the mechanized cleaning line is purchased:

Year 1 - 5

|                                               |           |
|-----------------------------------------------|-----------|
|                                               | Rs. lakhs |
| Annual Savings in operating cost (before tax) | 15.00     |
| Less: Annual depreciation @ 20% on cost       | 4.00      |
| Taxable annual incremental income             | 11.00     |
| Less: Tax @ 35%                               | 3.85      |
| After-tax annual incremental income           | 7.15      |
| Add: Annual depreciation                      | 4.00      |
| Annual incremental cash-in-flow               | 11.15     |

|                                                                    |      |
|--------------------------------------------------------------------|------|
| Present Value Factor (of an Annuity for a period of 5 years @ 10%) | 3.79 |
|--------------------------------------------------------------------|------|

(Rs. Lakhs)

|                                                         |       |
|---------------------------------------------------------|-------|
| Present Value of 5-year annual incremental cash-in-flow | 42.26 |
|---------------------------------------------------------|-------|

Year 6 – 10

|                                                  |       |
|--------------------------------------------------|-------|
| Annual Savings in operating cost (before tax)    | 15.00 |
| Less: Tax @ 35%                                  | 5.25  |
| After-tax annual incremental income/cash in flow | 9.75  |

|                                                            |      |
|------------------------------------------------------------|------|
| Present Value Factor (of an Annuity between year 6 and 10) | 2.35 |
|------------------------------------------------------------|------|

Present Value of cash-in-flow in years 6 to 10 (Rs. Lakhs) 22.91  
(Salvage value presumed 'nil')

Rs. in lakhs

Calculation of Net Present Value:

Aggregate Present Value of Cash in flows in years 1 – 10

(42.26 + 22.91) 65.17

Less: Initial investment – cost of machine 20.00

NET PRESENT VALUE (+) 45.17

Conclusion: Since the NPV is positive, it is advisable to purchase the mechanized line.

(b) (i) Calculation of average return from portfolio for the year ended 31.03.2007

|                                                                                  | Rs./Share |        |
|----------------------------------------------------------------------------------|-----------|--------|
|                                                                                  | M Ltd.    | N Ltd. |
| Dividend received during the year                                                | 10        | 3      |
| Capital Gain/Loss to 31.03.2007                                                  |           |        |
| Market Value                                                                     | 220       | 290    |
| Cost of Investment                                                               | 200       | 300    |
| Gain (Loss)                                                                      | 20        | (10)   |
| Yield                                                                            | 30        | (7)    |
| Cost                                                                             | 200       | 300    |
| % Return                                                                         | 15        | (2.33) |
| Weight in the portfolio                                                          | 57        | 43     |
| Weighted average return $(0.57 \times 0.15) + (0.43 \times -0.0233)$<br>= 0.0755 | 7.55%     |        |

(ii)

Expected average Return for 2007- 08

Expected Dividend 20 3.5

Capital Gain (Loss) to 31.03.2008

$(220 \times 0.2) + (250 \times 0.5) + (280 \times 0.3)$  [253-220] 33

$(290 \times 0.2) + (310 \times 0.5) + (330 \times 0.3)$  [312 – 290] 22

Yield 53 25.5

Market Value 220 290

% Return 24.09 8.79

Weighted Average (expected) Return  $(0.57 \times 0.2409) +$   
 $(0.43 \times 0.0879) =$  17.51%

## (iii) Calculation of Standard Deviation

|           | Expected<br>Market<br>Value | Expected<br>Gain | Expected<br>Dividend | Expected<br>Yield | Devia-<br>Tions | Square<br>of<br>Devia-<br>tions | Proba-<br>bility<br>factor | Square<br>of Devia-<br>tions ×<br>probabi-<br>lity |
|-----------|-----------------------------|------------------|----------------------|-------------------|-----------------|---------------------------------|----------------------------|----------------------------------------------------|
| M<br>Ltd. | 220                         | -                | 20                   | 20                | -33             | 1089                            | 0.2                        | 217.80                                             |
|           | 250                         | 30               | 20                   | 50                | -3              | 9                               | 0.5                        | 4.50                                               |
|           | 280                         | 60               | 20                   | 80                | 27              | 729                             | 0.3                        | 218.70                                             |
|           |                             |                  |                      | SD 21             |                 |                                 |                            | 441.00                                             |
|           |                             |                  |                      |                   |                 |                                 |                            | =====                                              |
| N Ltd     | 290                         | -                | 3.5                  | 3.5               | -22             | 484                             | 0.2                        | 96.80                                              |
|           | 310                         | 20               | 3.5                  | 23.5              | -2              | 4                               | 0.5                        | 2.00                                               |
|           | 330                         | 40               | 3.5                  | 43.5              | 18              | 324                             | 0.3                        | 97.20                                              |
|           |                             |                  |                      | SD 14             |                 |                                 |                            | 196.00                                             |
|           |                             |                  |                      |                   |                 |                                 |                            | =====                                              |

Share of M Ltd. is more risky as the SD is more than that of N Ltd.

## Question 2

- (a) A company has a choice of investments between several different equity oriented mutual funds. The company has an amount of Rs.1 crore to invest. The details of the mutual funds are as follows:

| Mutual Fund | Beta |
|-------------|------|
| A           | 1.6  |
| B           | 1.0  |
| C           | 0.9  |
| D           | 2.0  |
| E           | 0.6  |

Required:

- If the company invests 20% of its investment in the first two mutual funds and an equal amount in the mutual funds C, D and E, what is the beta of the portfolio?
- If the company invests 15% of its investment in C, 15% in A, 10% in E and the balance in equal amount in the other two mutual funds, what is the beta of the portfolio?
- If the expected return of market portfolio is 12% at a beta factor of 1.0, what will be the portfolios expected return in both the situations given above? (10 Marks)

(b) A holds the following portfolio:

| Share/Bond   | Beta | Initial Price<br>Rs` | Dividends<br>Rs. | Market Price at<br>end of year<br>Rs. |
|--------------|------|----------------------|------------------|---------------------------------------|
| Epsilon Ltd. | 0.8  | 25                   | 2                | 50                                    |
| Sigma Ltd.   | 0.7  | 35                   | 2                | 60                                    |
| Omega Ltd.   | 0.5  | 45                   | 2                | 135                                   |
| GOI Bonds    | 0.99 | 1,000                | 140              | 1,005                                 |

Calculate:

(i) The expected rate of return on his portfolio using Capital Asset Pricing Method (CAPM)

(ii) The average return of his portfolio.

Risk-free return is 14%.

(10 Marks)

Answer

With 20% investment in each MF Portfolio Beta is the weighted average of the Betas of various securities calculated as below:

| (i) | Investment | BETA | Investment<br>(Rs. Lacs) | Weighted<br>Investment |
|-----|------------|------|--------------------------|------------------------|
|     | A          | 1.6  | 20                       | 32                     |
|     | B          | 1    | 20                       | 20                     |
|     | C          | 0.9  | 20                       | 18                     |
|     | D          | 2    | 20                       | 40                     |
|     | E          | 0.6  | 20                       | 12                     |
|     |            |      | 100                      | 122                    |

Weighted BETA = 1.22

Expected Return =  $1.22 \times 12 = 14.64\%$

(ii) With varied percentages of investments portfolio beta is calculated as follows:

|   | BETA | Investment<br>(Rs. Lacs) | Weighted<br>Investment |
|---|------|--------------------------|------------------------|
| A | 1.6  | 15                       | 24                     |
| B | 1    | 30                       | 30                     |
| C | 0.9  | 15                       | 13.5                   |
| D | 2    | 30                       | 60                     |

|   |     |     |       |
|---|-----|-----|-------|
| E | 0.6 | 10  | 6     |
|   |     | 100 | 133.5 |

Weighted BETA = 1.335

Expected Return –  $1.335 \times 12 = 16.02\%$

- (iii) Expected return of the portfolio with pattern of investment as in case (i)  
 $12\% \times 1.22$  i.e. 14.64%

With pattern of investment as in case (ii)

$12\% \times 1.335$  i.e., 16.02%.

- (b) (i) Expected rate of return

|              | Total<br>Investments | Dividends  | Capital Gains |
|--------------|----------------------|------------|---------------|
| Epsilon Ltd. | 25                   | 2          | 25            |
| Sigma Ltd.   | 35                   | 2          | 25            |
| Omega Ltd.   | 45                   | 2          | 90            |
| GOI Bonds    | <u>1,000</u>         | <u>140</u> | <u>5</u>      |
|              | 1,105                | 146        | 145           |
|              | =====                | =====      | =====         |

Expected Return on market portfolio =  $\frac{146 + 145}{1105} = 26.33\%$

CAPM  $E(R_p) = R_F + B [E(R_M) - R_F]$

|             |             |                |   |              | %age    |
|-------------|-------------|----------------|---|--------------|---------|
| Epsilon Ltd | $14 + 0.8$  | $[26.33 - 14]$ | = | $14 + 9.86$  | = 23.86 |
| Sigma Ltd.  | $14 + 0.7$  | $[26.33 - 14]$ | = | $14 + 8.63$  | = 22.63 |
| Omega Ltd.  | $14 + 0.5$  | $[26.33 - 14]$ | = | $14 + 6.17$  | = 20.17 |
| GOI Bonds   | $14 + 0.99$ | $[26.33 - 14]$ | = | $14 + 12.21$ | = 26.21 |

- (ii) Average Return of Portfolio

$$\frac{23.86 + 22.63 + 20.17 + 26.21}{4} = \frac{92.87}{4} = 23.22\%$$

OR

$$\frac{0.8 + 0.7 + 0.5 + 0.99}{4} = \frac{2.99}{4} = 0.7475$$

$$14 + 0.7475(26.33 - 14)$$

$$14 + 9.22 = 23.22\%$$

## Question 3

- (a) The following is the Balance Sheet of a Private Limited Company as at 31st March, 2008.

| Capital and Liabilities                                  | Rs.                  | Property and Assets                   | Rs.                  |
|----------------------------------------------------------|----------------------|---------------------------------------|----------------------|
| <u>Share capital:</u>                                    | 8,00,000             | <u>Fixed Assets:</u>                  |                      |
| Authorized: 8,000 equity shares of Rs. 100 each          |                      | Cost 6,00,000                         |                      |
|                                                          |                      | Less: Depreciation <u>2,00,000</u>    | 4,00,000             |
| 10,000 11% Cumulative Preference shares of Rs. 100 each. | <u>10,00,000</u>     | <u>Current Assets:</u>                |                      |
|                                                          |                      | Stock in trade 2,00,000               |                      |
|                                                          |                      | Sundry debtors 4,00,000               |                      |
|                                                          |                      | Cash and bank balance <u>1,00,000</u> | 7,00,000             |
| Issued, subscribed and paid up:                          |                      |                                       |                      |
| 4,000 Equity shares of Rs. 100 each fully paid up        | 4,00,000             |                                       |                      |
| Reserve                                                  | 1,00,000             |                                       |                      |
| 15% Unsecured debentures                                 | 2,00,000             |                                       |                      |
| Trade creditors and creditors for expenses               | <u>4,00,000</u>      |                                       |                      |
|                                                          | <u>Rs. 11,00,000</u> |                                       | <u>Rs. 11,00,000</u> |

The company finds that a very profitable market exists for its products and with a little expansion; it could generate more sales at the present selling prices. The expansion calls for an investment of Rs. 8,00,000 in Fixed assets and Rs. 2,00,000 in Current assets. It is ascertained that the current annual profits in the region of Rs. 3,00,000 will be enhanced by 50% due to the expansion.

The debt-equity ratio applicable generally to the industry in which the Company is engaged is 2 : 1.

Please advise the management on the various methods available to it to meet the cost of financing the expansion, keeping in mind the interest of the equity shareholders.

(16 Marks)

- (b) Explain the difference between a Repo and a Reverse Repo transaction. (4 Marks)

Answer

| (a)                             | Rs.             | Rs. |
|---------------------------------|-----------------|-----|
| Resources needed for expansion: |                 |     |
| Fixed assets                    | 8,00,000        |     |
| Current assets                  | <u>2,00,000</u> |     |

|                           |                  |          |
|---------------------------|------------------|----------|
|                           | <u>10,00,000</u> |          |
| Less: Resources available | <u>1,00,000</u>  | 9,00,000 |

The question asks for the interest of the equity shareholders to be kept in mind. Hence, EPS has to be the maximum in the circumstances.

The debt-equity ratio applicable to the industry is 2:1. The equity as on 31<sup>st</sup> March, 2008 is Rs.5,00,000 and the debt Rs.2,00,000. Some gearing is thus possible on the debt front.

It is also to be remembered that cost of servicing debt is an allowable set-off against profits while cost of servicing capital is not.

The various alternatives available are considered below:-

- (i) To raise the equity to the level authorized by the memorandum and to raise the balance by issue of preference capital.

|                                                                 |                 |
|-----------------------------------------------------------------|-----------------|
| Resources needed                                                | 9,00,000        |
| Equity capital to the extent unissued to be issued at par       | <u>4,00,000</u> |
| Balance needed                                                  | 5,00,000        |
| To be met by the issue of 5,000 11% cumulative preference share | <u>5,00,000</u> |

EPS then will be  $\text{Rs.}3,00,000 + \text{Rs.}1,50,000 - 55,000 \div 8,000$  viz. Rs.49.38

- (ii) To raise the entire requirements by issue of Preference Capital.

In this situation, EPS will be  $\text{Rs.}4,50,000 - 99,000 = \frac{\text{Rs.}3,51,000}{4,000} = \text{Rs.}87.75$

- (iii) To raise the resources by part issue of equity and balance by way of 15% debentures.

|                     |             |
|---------------------|-------------|
| Resources needed    | Rs.9,00,000 |
| Unissued capital    | 4,00,000    |
| Issue of debentures | 5,00,000    |

EPS in this case will be  $\text{Rs.}4,50,000 - 75,000 = 3,75,000 \div 8,000 = \text{Rs.}46.88$

- (iv) The company's debt equity ratio is 0.4:1. The acceptable limit is 2:1. The company can therefore raise a debt, on the present level of equity base to the extent of Rs.10,00,000. The existing debt being Rs.2,00,000, balance of Rs.8,00,000 could be raised. Thus there will be a short cover of Rs.1,00,000. To use the debt cover to the fullest extent, the company can issue additional equity shares of 500 making the equity base of Rs.4,50,000.

|                     |                 |                 |
|---------------------|-----------------|-----------------|
| Resources needed    |                 | 9,00,000        |
| Issue of new shares | 50,000          |                 |
| Issue of debt       | <u>8,50,000</u> | <u>9,00,000</u> |

The rate at which debt can be raised cannot be lower than what the company is paying to the debentureholders i.e., (15%). Assuming the cost of loan at 17%, the position of EPS will be as under:

|                                                 |                     |
|-------------------------------------------------|---------------------|
| New profits                                     | 4,50,000            |
| Less: Interest on borrowings 17% on Rs.8,50,000 | 1,44,500            |
| Profit available to equity holders              | <u>Rs.3,05,500</u>  |
| No. of equity shares                            | 4,500               |
| EPS                                             | Rs.68 (rounded off) |

A yet another method could be to issue the unissued equity shares assuming at a premium, say of 20% and for the balance raise preference share capital which is the least costly amongst the various alternatives.

|                                                 |                 |
|-------------------------------------------------|-----------------|
| Resources needed                                | Rs.9,00,000     |
| Issue of 4000 equity shares at Rs.120 per share | 4,80,000        |
| Balance needed                                  | <u>4,20,000</u> |

Issue 4200 11% cum Preference shares at par. EPS in this situation will be  
 $\text{Rs.4,50,000} - \text{Rs.46,200} = 4,03,800$

$$= \frac{4,03,800}{8,000}$$

$$= \text{Rs.50.48}$$

Tabled below are the various results.

$$\text{EPS at present } \frac{\text{Rs.3,00,000}}{\text{Rs.4,000}} = \text{Rs.75}$$

|                                                                         | (Rs.) |
|-------------------------------------------------------------------------|-------|
| (i) By Combination of issue of equity and preference at par             | 49.38 |
| (ii) By Raising preference shares only                                  | 87.75 |
| (iii) By part issue of equity and part debentures                       | 46.88 |
| (iv) By Predominant resort to borrowings                                | 68.00 |
| (v) Issue of part equity at a premium and the balance preference shares | 50.48 |

The suggested plan, per se, will be to meet the entire costs of expansion by issuing 11% cumulative preference shares.

- (b) Difference between a REPO and a REVERSE REPO Transaction: These are Money Market transactions entered into by players in the money market such as commercial banks, financial institutions, large players like Mutual Funds but are in restricted use because of reserve Bank of India policy guidelines. The word "REPO" is the abbreviation of a Repurchase Option. An agreement by which a borrower sells certain acceptable securities to a lender against funds received and agrees to reverse the transaction at an agreed future date is the essential feature of a REPO transaction. In essence it is a contract of lending and the difference between the prices of the securities on the two dates will represent the cost of funds which the borrower agrees to bear.

A single transaction as described above is a 'REPO' transaction when viewed from the point of view of the borrower-seller of securities; the same transaction when viewed from the point of view of the lender-buyer is understood as a 'REVERSE REPO'.

Hence, essentially, there is no difference between a 'REPO' and a 'REVERSE REPO' transaction excepting that the identification is from a different point of view.

The essential features of the Repo transaction are:

1. A financial institution places certain securities (presently restricted to Treasury Bills) with the buyer and borrows a certain amount of money.
2. On a given date specified in advance (between 14 days to 1 year) the entire transaction is reversed.
3. The difference between the purchase and sale price is the interest or gain to the buyer. Sometimes the seller may also gain from a transaction. This is when the buyer is in need of securities and initiates the transaction.

#### Question 4

- (a) Given below is the Balance Sheet of S Ltd. as on 31.3.2008 :

| Liabilities                        | Rs.<br>(in lakh) | Assets              | Rs.<br>(in lakh) |
|------------------------------------|------------------|---------------------|------------------|
| Share capital<br>(share of Rs. 10) | 100              | Land and building   | 40               |
| Reserves and<br>surplus            | 40               | Plant and machinery | 80               |
| Creditors                          | 30               | Investments         | 10               |
|                                    |                  | Stock               | 20               |
|                                    |                  | Debtors             | 15               |
|                                    |                  | Cash at bank        | 5                |
|                                    | <u>170</u>       |                     | <u>170</u>       |

You are required to work out the value of the Company's, shares on the basis of Net Assets method and Profit-earning capacity (capitalization) method and arrive at the fair price of the shares, by considering the following information:

- (i) Profit for the current year Rs. 64 lakhs includes Rs. 4 lakhs extraordinary income and Rs. 1 lakh income from investments of surplus funds; such surplus funds are unlikely to recur.
- (ii) In subsequent years, additional advertisement expenses of Rs. 5 lakhs are expected to be incurred each year.
- (iii) Market value of Land and Building and Plant and Machinery have been ascertained at Rs. 96 lakhs and Rs. 100 lakhs respectively. This will entail additional depreciation of Rs. 6 lakhs each year.
- (iv) Effective Income-tax rate is 30%.
- (v) The capitalization rate applicable to similar businesses is 15%. (16 Marks)
- (b) Comment briefly on the social cost benefit analysis in relation to evaluation of an Industrial project. (4 Marks)

Answer

|                          |           |
|--------------------------|-----------|
| (a)                      | Rs. lakhs |
| Net Assets Method        |           |
| Assets: Land & Buildings | 96        |
| Plant & Machinery        | 100       |
| Investments              | 10        |
| Stocks                   | 20        |
| Debtors                  | 15        |
| Cash & Bank              | <u>5</u>  |
| Total Assets             | 246       |
| Less: Creditors          | <u>30</u> |
| Net Assets               | 216       |
|                          | =====     |

Value per share

(a) Number of shares  $\frac{1,00,00,000}{10} = 10,00,000$

(b) Net Assets Rs.2,16,00,000

$$\frac{\text{Rs.2,16,00,000}}{10,00,000} = \text{Rs.21.6}$$

## Profit-earning Capacity Method

|                                         |             |             |
|-----------------------------------------|-------------|-------------|
| Profit before tax                       |             | 64.00       |
| Less: Extraordinary income              | 4.00        |             |
| Investment income (not likely to recur) | <u>1.00</u> | <u>5.00</u> |
|                                         |             | 59.00       |

Less: Additional expenses in forthcoming years

|                                           |             |              |
|-------------------------------------------|-------------|--------------|
| Advertisement                             | 5.00        |              |
| Depreciation                              | <u>6.00</u> | <u>11.00</u> |
| Expected earnings before taxes            |             | 48.00        |
| Less: Income-tax @ 30%                    |             | <u>14.40</u> |
| Future maintainable profits (after taxes) |             | 33.60        |
|                                           |             | =====        |

Value of business 224

Capitalisation factor  $\frac{33.60}{0.15} =$

Less: External Liabilities (creditors) 30  
194  
=====

Value per share

$$= \frac{1,94,00,000}{10,00,000} = \text{Rs. } 19.4$$

Fair Price of share Rs.

Value as per Net Assets Method 21.6

Value as per Profit earning capacity (Capitalisation) method 19.4

$$\text{Fair Price} = \frac{21.6 + 19.4}{2} = \frac{41}{2} = \text{Rs. } 20.5$$

- (b) Comments on Social Cost-Benefit Analysis of industrial projects: This refers to the moral responsibility of both PSU and private sector enterprises to undertake socially desirable projects – that is, the social contribution aspect needs to be kept in view.

Industrial capital investment projects are normally subjected to rigorous feasibility

analysis and cost benefit study from the point of view of the investors. Such projects, especially large ones often have a ripple effect on other sections of society, local environment, use of scarce national resources etc. Conventional cost-benefit analysis ignores or does not take into account or ignores the societal effect of such projects. Social Cost Benefit (SCB) is recommended and resorted to in such cases to bring under the scanner the social costs and benefits.

SCB sometimes changes the very outlook of a project as it brings elements of study which are unconventional yet very very relevant. In a study of a famous transportation project in the UK from a normal commercial angle, the project was to run an annual deficit of more than 2 million pounds. The evaluation was adjusted for a realistic fare structure which the users placed on the services provided which changed the picture completely and the project got justified. Large public sector/service projects especially in under-developed countries which would get rejected on simple commercial considerations will find justification if the social costs and benefits are considered.

SCB is also important for private corporations who have a moral responsibility to undertake socially desirable projects, use scarce natural resources in the best interests of society, generate employment and revenues to the national exchequer.

Indicators of the social contribution include

- (a) Employment potential criterion;
- (b) Capital output ratio – that is the output per unit of capital;
- (c) Value added per unit of capital;
- (d) Foreign exchange benefit ratio.

#### Question 5

- (a) M Ltd. belongs to a risk class for which the capitalization rate is 10%. It has 25,000 outstanding shares and the current market price is Rs. 100. It expects a net profit of Rs. 2,50,000 for the year and the Board is considering dividend of Rs. 5 per share.

M Ltd. requires to raise Rs. 5,00,000 for an approved investment expenditure. Show, how does the MM approach affect the value of M Ltd., if dividends are paid or not paid.

(8 Marks)

- (b) A company is considering hedging its foreign exchange risk. It has made a purchase on 1st. January, 2008 for which it has to make a payment of US \$ 50,000 on September 30, 2008. The present exchange rate is 1 US \$ = Rs. 40. It can purchase forward 1 US \$ at Rs. 39. The company will have to make a upfront premium of 2% of the forward amount purchased. The cost of funds to the company is 10% per annum and the rate of Corporate tax is 50%. Ignore taxation. Consider the following situations and compute the Profit/Loss the company will make if it hedges its foreign exchange risk:

(i) If the exchange rate on September 30, 2008 is Rs. 42 per US \$.

(ii) If the exchange rate on September 30, 2008 is Rs. 38 per US \$.

(8 Marks)

- (c) Briefly explain, what is 'refinancing', indicating any two institutions which offer this facility.  
(4 Marks)

Answer

- (a) A When dividend is paid

- (a) Price per share at the end of year 1

$$100 = \frac{1}{1.10}(\text{Rs.}5 + P_1)$$

$$110 = \text{Rs.}5 + P_1$$

$$P_1 = 105$$

- (b) Amount required to be raised from issue of new shares

$$\text{Rs.}5,00,000 - (2,50,000 - 1,25,000)$$

$$\text{Rs.}5,00,000 - 1,25,000 = \text{Rs.}3,75,000$$

- (c) Number of additional shares to be issued

$$\frac{3,75,000}{105} = \frac{75,000}{21} \text{ shares or say 3572 shares}$$

- (d) Value of M Ltd.

$$(\text{Number of shares} \times \text{Expected Price per share})$$

$$\text{i.e., } (25,000 + 3,572) \times \text{Rs.}105 = \text{Rs.}30,00,060$$

- B When dividend is not paid

- (a) Price per share at the end of year 1

$$100 = \frac{P_1}{1.10}$$

$$P_1 = 110$$

- (b) Amount required to be raised from issue of new shares

$$\text{Rs.}5,00,000 - 2,50,000 = 2,50,000$$

- (c) Number of additional shares to be issued

$$\frac{2,50,000}{110} = \frac{25,000}{11} \text{ shares or say 2273 shares.}$$

- (d) Value of M Ltd.,  
 $(25,000 + 2273) \times \text{Rs.}110$   
 $= \text{Rs.}30,00,030$   
 Whether dividend is paid or not, the value remains the same.

| (b)                                               | (Rs.)    |
|---------------------------------------------------|----------|
| Present Exchange Rate Rs.40 = 1 USD               |          |
| If company purchases USD 50000 forward premium is |          |
| $50000 \times 39 \times 2\%$                      | 39,000   |
| Interest on Rs.39,000 for 9 months at 10%         | 2,925    |
| Total hedging cost                                | 41,925   |
| If exchange rate is Rs.42                         |          |
| Then gain $(\text{Rs.}42 - 39)$ for USD 50000     | 1,50,000 |
| Less:Hedging cost                                 | 41,925   |
| Net gain                                          | 1,08,075 |
| <br>If USD = Rs.38                                |          |
| Then loss $(39 - 38)$ for USD 50000               | 50,000   |
| Add: Hedging Cost                                 | 41,925   |
| Total Loss                                        | 91,925   |

- (c) REFINANCING: The term “refinancing” would refer to a process by which a lending institution reimburses and thus takes over the exposure or assistance provided by another financing institution to an industrial or business unit. For example, a nationalized bank may provide financial assistance to a number of small scale units and may get the amount reimbursed by Small Industries Development Bank of India (SIDBI).

Refinancing is a useful process by which a large lending institution which is not poised to do retail lending can do the activity through other banks/lending institutions which have infrastructure for and are focused on retail lending. It is a convenient tool for large public institutions with developmental or social goals to reach small needy borrowers.

In India, National Agricultural Bank for Reconstruction and Development (NABARD) has refinancing schemes for agricultural financial assistance provided by commercial and rural banks. Another example can be that of Small Industries Development Bank of India (SIDBI) which re-finances assistance made to small scale units by other banks and institutions.

## Question 6

Write short notes on the following:

- (a) Venture capital financing
- (b) Inter-bank participation certificate
- (c) Distinction between Money market and Capital market
- (d) Credit cards as part of Consumer finance
- (e) Stock Lending Scheme. (4 x 5 = 20 Marks)

## Answer

- (a) Venture capital financing refers to financing of new high-risk ventures promoted by qualified entrepreneurs who lack experience and funds to give shape to their ideas. A venture capitalist invests in equity or debt securities floated by such entrepreneurs who undertake highly risky ventures with a potential of success.

Common methods of venture capital financing include:

- (i) Equity financing: The undertaking's requirements of long-term funds are met by contribution by the venture capitalist but not exceeding 49% of the total equity capital;
  - (ii) Conditional Loan: Which is repayable in the form of royalty after the venture is able to generate sales;
  - (iii) Income Note: A hybrid security combining features of both a conventional and conditional loan, where the entrepreneur pays both interest and royalty but at substantially lower rates;
  - (iv) Participating debenture: The security carries charges in three phases – start phase, no interest upto a particular level of operations; next stage, low interest; thereafter a high rate.
- (b) Inter-bank Participation Certificate (IBPC): This is a Money Market instrument to even out the short-term liquidity within the banking system. It is issued by a bank requiring funds and is subscribed to by another bank wanting to deploy surplus funds. It is issued against an underlying 'standard' advance and during the term of participation should always be covered by the outstanding balance in the account concerned.

IBPC can provide advantage to both the issuing bank and the participating bank. To the issuing bank it provides an opportunity to obtain funds against its advances without actually diluting the asset portfolio. To the participating lender-bank it provides an opportunity to deploy short-term funds profitably against assets qualified for bank funding.

IBPC is an instrument that has to comply with Reserve Bank of India's norms and can be issued by any scheduled commercial bank. IBPC's can be issued in two types – one with risk to the lender and the other without risk to the lender. If it is with risk to the lender,

the issuing bank will reduce the amount of participation from the advances outstanding and the participating bank will show the participation as part of its advances. When the issue is without risk passing on, the issuing bank will show the participation as borrowings from banks and the participating bank will show it as advances to other banks. Inter-bank Participation Certificates are short-term instruments to even out issues of short-term liquidity within the banking system.

The primary objective is to provide some degree of flexibility in the credit portfolio of banks.

- (c) There is a basic difference between the money market and capital market. The operation in the money market are for a duration upto one year and deals in short term financial assets whereas in the capital market operations are for a larger period beyond one year and therefore deals in medium and long term financial assets. Secondly, the money market is not a well-defined place like the capital market where business is normally done at a defined place like a stock-exchange. The transactions in the money market are done through electronic media and other written documents.
  - (a) In the capital market, there is a classification between primary market and secondary market. There is no such sub-division of the money market. Lately, however issues are afoot to develop a secondary money market.
  - (b) Capital market deals for fund requirements of a long-term whilst money market generally caters to short-term requirements.
  - (c) The quantum of transactions in the capital market is decidedly not as large as in the money market.
  - (d) The type of instruments dealt in the money market are like inter bank call money, notice money upto 14 days, short-term deposits upto three months, 91 days/182 days treasury bills, commercial paper etc.
  - (e) The players in the capital market are general/retail investors, brokers, merchant bankers, registrars to the issue, under-writers, corporate investors, FIs and bankers while the money market participants are the Government, Reserve Bank of India and the banks.
- (d) Credit cards are a simple and convenient means of access to short term credit for consumers. They enable the consumer to:
  - (a) Dispense with using cash for every transaction.
  - (b) Make Monthly payments.
  - (c) No interest charges if paid on due date every month.
  - (d) Insurance benefits are available.
  - (e) Special discounts can be availed which are not applicable on cash transactions.
  - (f) For high value purchases the consumer can use the roll over facility and pay for his purchases in instalments.

The disadvantages of credit cards are:

- (a) The consumer commits his future income.
- (b) If not used wisely the consumer lands into a debt trap.
- (c) The rate of interest on credit cards for long term finance (roll over) is around 40% per annum.
- (e) In stock lending, the legal title of a security is temporarily transferred from a lender to a borrower. The lender retains all the incidents of ownership, other than the voting rights. The borrower is entitled to use the securities/shares as required but is liable to the lender for all benefits such as dividends, interest, rights etc. The stock lending scheme is a means to cover short sales viz., selling shares without possessing them.

The procedure is used by the lenders to maximize yield on their portfolio. Incidentally, borrowers use the shares/securities lending programme to avoid settlement failures.

Securities/stock lending provides income opportunities for security-holders and creates liquidity to facilitate trading strategies among borrowers. Stock lending is particularly attractive for large institutional areas, as this is an easy way of generating income to off-set custody fees and requires little, if any, of their involvement or time.

Stock lending gives borrowers access to tender portfolios which provide the flexibility necessary when borrowing for strategic posturing and financing inventories. From the point of view of market, stock lending and borrowing facilitates timely settlement, increases the settlements, reduces market volatility and improves liquidity.