

# Financial, Treasury and Forex Management

373

Roll No.....

Time allowed : 3 hours

Maximum marks : 100

Total number of questions : 7

Total number of printed pages : 8

- NOTE :** 1. Answer FIVE Questions including Question No.1 which is compulsory. All working notes should be shown distinctly.
2. Tables showing the present value of `1 and the present value of an annuity of `1 for 15 years are annexed.

1. Comment on **any four** of the following :

- (i) Issue of bonus shares does not affect the liquidity position of the company.
- (ii) Dividend policy has to be adapted in the light of nature and environment of firm, industry and the economy.
- (iii) The risk of becoming technically insolvent is measured by using the tool of net working capital by the Finance Managers.
- (iv) Treasury function is concerned with management of funds at the micro level.
- (v) Exchange rate is the price of one country's money in terms of other country's money.

(5 marks each)

2. (a) The initial investment outlay for a capital investment project of Priyanka Ltd. consists of `100 lakh for plant and machinery and `40 lakh for working capital. Other details are summarised as follows :

|  |  |
|--|--|
| Sales  | : 1 lakh units of output per year for years 1 to 5     |
| Selling price                                  | : `120 per unit of output                              |
| Variable cost                                  | : `60 per unit of output                               |
| Fixed overheads<br>(excluding depreciation)    | : `15 lakh per year for years 1 to 5                   |
| Rate of depreciation on<br>plant and machinery | : 25% on written down value method                     |
| Salvage value of<br>plant and machinery        | : Equal to the written down value at the end of year 5 |
| Applicable tax rate                            | : 40%  |
| Time horizon                                   | : 5 years  |
| Post-tax cut-off rate                          | : 12%.   |

You are required to —

- (i) Calculate the NPV and indicate the financial viability of the project.
- (ii) Determine the sensitivity of the project's NPV under each of the conditions –
  - (a) decrease in selling price by 5%; and (b) increase in variable cost by 10%.

*(16 marks)*

- (b) A forex trader wants to earn arbitrage gain. He receives the following data and quotes from the forex and money market :

|   |            |
|---|------------|
| Spot rate of US \$                            | ₹ 43.30/\$ |
| 6-Month forward rate of US \$                 | ₹ 43.70/\$ |
| Annualised interest rate for 6 months (US \$) | 4%         |
| Annualised interest rate for 6 months (₹)     | 8%         |

You are required to show what are the transactions the trader will execute to receive the arbitrage gain, if he is willing to borrow ₹ 43.30 million or US \$ 1 million, assuming that no transaction cost or taxes exist.

*(4 marks)*

3. (a) Gel Corporation presently gives credit terms of 'net 30 days'. It has ₹ 600 lakh in credit sales and its average collection period is 45 days. To stimulate sales, the company may give credit terms of 'net 60 days' with sales expected to increase by 15%. After the change, the average collection period is expected to be 75 days with no difference in payment habits between old and new customers. Variable costs are ₹ 0.80 for every ₹ 1 of sales; and the company's before tax required rate of return on investment in receivables is 20%. Assume 360 days in a year. Should the company extend its credit period ?

*(8 marks)*

: 3 :

- (b) Honey Corporation follows a current dividend policy of distributing 40% of its earnings. The share of the company is trading at ₹200. The management of the corporation is of the opinion that an increase in the dividend payout from current 40% to either 50% or 60% would increase the value of the firm and provide better returns to the investors. Assume that the firm continues to remain in the same business and the expected earnings is ₹40 per share in the coming year.

Examine the shareholders' return if Honey Corporation changes its dividend payout to (i) 50%; and (ii) 60%. What conclusion would you draw from the results ?

(6 marks)

- (c) The capital structure of Supreme Ltd. is as under :

|   |          |
|---|----------|
| 2,000, 6% Debentures of ₹100 each (I issue)         | 2,00,000 |
| 1,000, 7% Debentures of ₹100 each (II issue)        | 1,00,000 |
| 2,000, 8% Cumulative preference shares of ₹100 each | 2,00,000 |
| 4,000, Equity shares of ₹100 each                   | 4,00,000 |
| Retained earnings                                   | 1,00,000 |

Earnings per share of the company in the past many years has been ₹15. Shares of the company are sold in the market at book value. The company's tax rate is 30% and shareholders' personal tax liability is 10%.

Find out weighted average cost of capital of the company.

(6 marks)

4. Distinguish between *any four* of the following :

- 'Risk evaluation' and 'sensitivity analysis'.
- 'Factoring' and 'bill discounting'.
- 'Technical viability of a project' and 'financial viability of a project'.
- 'Growth oriented funds' and 'high growth funds'.
- 'Bearer debentures' and 'registered debentures'.

(5 marks each)

: 4 :

5. (a) Internet Services Ltd. is a listed company and the share prices have been volatile. An investor expects that the share price may fall from the present level of ₹1,900 and wants to make profit by a suitable option strategy. He is short of share at a price of ₹1,900 and wants to protect himself against any loss. The following option rates are available :

| <i>Strike Price</i> | <i>Call Option</i> | <i>Put Option</i> |
|---------------------|--------------------|-------------------|
| (₹)                 | (₹)                | (₹)               |
| 1,700               | 325                | 65                |
| 1,800               | 200                | 80                |
| 1,900               | 85                 | 120               |
| 2,000               | 70                 | 200               |
| 2,100               | 65                 | 280               |

The investor decides to buy a call at a strike price of ₹1,800 and to write a put at a strike price of ₹2,000. Find out the profit or loss profile of the investor if the share price on the expiration date is ₹1,600, ₹1,700, ₹1,800, ₹1,900, ₹2,000 or ₹2,100 respectively.

(6 marks)

- (b) A share is currently trading at ₹125. It is expected to give a dividend of ₹10 per share after 4 months. Assume that the risk-free rate of return is 10% per annum.

What would be the approximate value of the forward contract (assuming annual compounding) on the share for delivery after 3 months ?

(4 marks)

- (c) Calculate the operating leverage and financial leverage under Situation-1 and Situation-2 and Financial Plan-A and Financial Plan-B respectively from the following information relating to the operations and capital structure of Swadeshi Ltd. :

|                             |   |                           |
|-----------------------------|---|---------------------------|
| Installed capacity          | : | 2,000 units               |
| Actual production and sales | : | 50% of installed capacity |
| Selling price per unit      | : | ₹20                       |
| Variable cost per unit      | : | ₹10.                      |

Fixed costs : Situation-1 : ₹4,000;      Situation-2 : ₹5,000.

: 5 :

Capital structure :

|                                    | <i>Financial Plan</i> |        |
|------------------------------------|-----------------------|--------|
|                                    | A                     | B      |
|                                    | ( ` )                 | ( ` )  |
| Equity capital                     | 5,000                 | 15,000 |
| Debt capital (cost of debt is 10%) | 15,000                | 5,000  |
|                                    | 20,000                | 20,000 |

(10 marks)

6. An iron ore company is considering investing in a new processing facility. The company extracts iron ore from an open pit mine. During a year, 1,00,000 ton of iron ore is extracted. If the output from the extraction process is sold immediately upon removal of dirt, rocks and other impurities, a price of `1,000 per ton of iron ore can be obtained. The company has estimated that its extraction costs amount to 70% of the net realisable value of the iron ore.

As an alternative to selling all the iron ore at `1,000 per ton, it is possible to process further 25% of the output. The additional cash cost of further processing would be `100 per ton. The processed iron ore would yield 80% final output and can be sold at `1,350 per ton.

For additional processing, the company would have to install equipments costing `100 lakh. The equipment is expected to have a useful life of 5 years with no salvage value. The company follows the straight line method of depreciation. Additional working capital requirement is estimated at `20 lakh. The company's cut-off rate for such investments is 15%. Assume corporate tax rate 30% (including surcharge and education cess).

Should the company install the equipment for further processing of the iron ore ?

(20 marks)

7. Write notes on *any four* of the following :

- (i) Social cost benefit analysis
- (ii) ABC analysis of inventory management
- (iii) Efficient portfolio
- (iv) Economic value added (EVA)
- (v) Residual theory of dividend policy.

*(5 marks each)*

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TABLE - 1 : PRESENT VALUE OF RUPEE ONE

| RATE | YEAR   | YEAR | YEAR | YEAR | YEAR |  |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|------|--|
|      | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15     | 16   | 17   | 18   | 19   |  |
| 5%   | 0.9524 | 0.9070 | 0.8638 | 0.8227 | 0.7835 | 0.7462 | 0.7107 | 0.6768 | 0.6446 | 0.6139 | 0.5847 | 0.5568 | 0.5303 | 0.5051 | 0.4810 |      |      |      |      |  |
| 6%   | 0.9434 | 0.8900 | 0.8396 | 0.7921 | 0.7473 | 0.7050 | 0.6651 | 0.6274 | 0.5919 | 0.5584 | 0.5268 | 0.4970 | 0.4688 | 0.4423 | 0.4173 |      |      |      |      |  |
| 7%   | 0.9346 | 0.8734 | 0.8163 | 0.7629 | 0.7130 | 0.6663 | 0.6227 | 0.5820 | 0.5439 | 0.5083 | 0.4751 | 0.4440 | 0.4150 | 0.3878 | 0.3624 |      |      |      |      |  |
| 8%   | 0.9259 | 0.8573 | 0.7938 | 0.7350 | 0.6806 | 0.6302 | 0.5835 | 0.5403 | 0.5002 | 0.4632 | 0.4289 | 0.3971 | 0.3677 | 0.3405 | 0.3152 |      |      |      |      |  |
| 9%   | 0.9174 | 0.8417 | 0.7722 | 0.7084 | 0.6499 | 0.5963 | 0.5470 | 0.5019 | 0.4604 | 0.4224 | 0.3875 | 0.3555 | 0.3262 | 0.2992 | 0.2745 |      |      |      |      |  |
| 10%  | 0.9091 | 0.8264 | 0.7513 | 0.6830 | 0.6209 | 0.5645 | 0.5132 | 0.4665 | 0.4241 | 0.3855 | 0.3505 | 0.3186 | 0.2897 | 0.2633 | 0.2394 |      |      |      |      |  |
| 11%  | 0.9009 | 0.8116 | 0.7312 | 0.6587 | 0.5935 | 0.5346 | 0.4817 | 0.4339 | 0.3909 | 0.3522 | 0.3173 | 0.2858 | 0.2575 | 0.2320 | 0.2090 |      |      |      |      |  |
| 12%  | 0.8929 | 0.7972 | 0.7118 | 0.6355 | 0.5674 | 0.5066 | 0.4523 | 0.4039 | 0.3606 | 0.3220 | 0.2875 | 0.2567 | 0.2292 | 0.2046 | 0.1827 |      |      |      |      |  |
| 13%  | 0.8850 | 0.7831 | 0.6931 | 0.6133 | 0.5428 | 0.4803 | 0.4251 | 0.3762 | 0.3329 | 0.2946 | 0.2607 | 0.2307 | 0.2042 | 0.1807 | 0.1599 |      |      |      |      |  |
| 14%  | 0.8772 | 0.7695 | 0.6750 | 0.5921 | 0.5194 | 0.4556 | 0.3996 | 0.3506 | 0.3075 | 0.2697 | 0.2366 | 0.2076 | 0.1821 | 0.1597 | 0.1401 |      |      |      |      |  |
| 15%  | 0.8696 | 0.7561 | 0.6575 | 0.5718 | 0.4972 | 0.4323 | 0.3759 | 0.3269 | 0.2843 | 0.2472 | 0.2149 | 0.1869 | 0.1625 | 0.1413 | 0.1229 |      |      |      |      |  |
| 16%  | 0.8621 | 0.7432 | 0.6407 | 0.5523 | 0.4761 | 0.4104 | 0.3538 | 0.3050 | 0.2630 | 0.2267 | 0.1954 | 0.1685 | 0.1452 | 0.1252 | 0.1079 |      |      |      |      |  |
| 17%  | 0.8547 | 0.7305 | 0.6244 | 0.5337 | 0.4561 | 0.3898 | 0.3332 | 0.2848 | 0.2434 | 0.2080 | 0.1778 | 0.1520 | 0.1299 | 0.1110 | 0.0949 |      |      |      |      |  |
| 18%  | 0.8475 | 0.7182 | 0.6086 | 0.5158 | 0.4371 | 0.3704 | 0.3139 | 0.2660 | 0.2255 | 0.1911 | 0.1619 | 0.1372 | 0.1163 | 0.0985 | 0.0835 |      |      |      |      |  |
| 19%  | 0.8403 | 0.7062 | 0.5934 | 0.4987 | 0.4190 | 0.3521 | 0.2959 | 0.2487 | 0.2090 | 0.1756 | 0.1476 | 0.1240 | 0.1042 | 0.0876 | 0.0736 |      |      |      |      |  |
| 20%  | 0.8333 | 0.6944 | 0.5787 | 0.4823 | 0.4019 | 0.3349 | 0.2791 | 0.2326 | 0.1938 | 0.1615 | 0.1346 | 0.1122 | 0.0935 | 0.0779 | 0.0649 |      |      |      |      |  |
| 21%  | 0.8264 | 0.6830 | 0.5645 | 0.4665 | 0.3855 | 0.3186 | 0.2633 | 0.2176 | 0.1799 | 0.1486 | 0.1228 | 0.1015 | 0.0839 | 0.0693 | 0.0573 |      |      |      |      |  |
| 22%  | 0.8197 | 0.6719 | 0.5507 | 0.4514 | 0.3700 | 0.3033 | 0.2486 | 0.2038 | 0.1670 | 0.1369 | 0.1122 | 0.0920 | 0.0754 | 0.0618 | 0.0507 |      |      |      |      |  |
| 23%  | 0.8130 | 0.6610 | 0.5374 | 0.4369 | 0.3552 | 0.2888 | 0.2348 | 0.1909 | 0.1552 | 0.1262 | 0.1026 | 0.0834 | 0.0678 | 0.0551 | 0.0448 |      |      |      |      |  |
| 24%  | 0.8065 | 0.6504 | 0.5245 | 0.4230 | 0.3411 | 0.2751 | 0.2218 | 0.1789 | 0.1443 | 0.1164 | 0.0938 | 0.0757 | 0.0610 | 0.0492 | 0.0397 |      |      |      |      |  |
| 25%  | 0.8000 | 0.6400 | 0.5120 | 0.4096 | 0.3277 | 0.2621 | 0.2097 | 0.1678 | 0.1342 | 0.1074 | 0.0859 | 0.0687 | 0.0550 | 0.0440 | 0.0352 |      |      |      |      |  |

TABLE - 2 : PRESENT VALUE OF AN ANNUITY OF RUPEE ONE

| RATE | YEAR    | YEAR | YEAR | YEAR |  |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|------|------|------|--|
|      | 1      | 2      | 3      | 4      | 5      | 6      | 7      | 8      | 9      | 10     | 11     | 12     | 13     | 14     | 15      | 16   | 17   | 18   |  |
| 5%   | 0.9524 | 1.8594 | 2.7232 | 3.5460 | 4.3295 | 5.0757 | 5.7864 | 6.4632 | 7.1078 | 7.7217 | 8.3064 | 8.8633 | 9.3936 | 9.8986 | 10.3797 |      |      |      |  |
| 6%   | 0.9434 | 1.8334 | 2.6730 | 3.4651 | 4.2124 | 4.9173 | 5.5824 | 6.2098 | 6.8017 | 7.3601 | 7.8869 | 8.3838 | 8.8527 | 9.2950 | 9.7122  |      |      |      |  |
| 7%   | 0.9346 | 1.8080 | 2.6243 | 3.3872 | 4.1002 | 4.7665 | 5.3893 | 5.9713 | 6.5152 | 7.0236 | 7.4987 | 7.9427 | 8.3577 | 8.7455 | 9.1079  |      |      |      |  |
| 8%   | 0.9259 | 1.7833 | 2.5771 | 3.3121 | 3.9927 | 4.6229 | 5.2064 | 5.7466 | 6.2469 | 6.7101 | 7.1390 | 7.5361 | 7.9038 | 8.2442 | 8.5595  |      |      |      |  |
| 9%   | 0.9174 | 1.7581 | 2.5313 | 3.2397 | 3.8897 | 4.4859 | 5.0330 | 5.5348 | 5.9952 | 6.4177 | 6.8052 | 7.1607 | 7.4869 | 7.7862 | 8.0607  |      |      |      |  |
| 10%  | 0.9091 | 1.7355 | 2.4869 | 3.1699 | 3.7908 | 4.3553 | 4.8684 | 5.3349 | 5.7590 | 6.1446 | 6.4951 | 6.8137 | 7.1034 | 7.3667 | 7.6061  |      |      |      |  |
| 11%  | 0.9009 | 1.7125 | 2.4437 | 3.1024 | 3.6959 | 4.2305 | 4.7122 | 5.1461 | 5.5370 | 5.8892 | 6.2065 | 6.4924 | 6.7499 | 6.9819 | 7.1909  |      |      |      |  |
| 12%  | 0.8929 | 1.6901 | 2.4018 | 3.0373 | 3.6048 | 4.1114 | 4.5638 | 4.9676 | 5.3282 | 5.6502 | 5.9377 | 6.1944 | 6.4235 | 6.6282 | 6.8109  | ..   |      |      |  |
| 13%  | 0.8850 | 1.6681 | 2.3612 | 2.9745 | 3.5172 | 3.9975 | 4.4226 | 4.7988 | 5.1317 | 5.4262 | 5.6869 | 5.9176 | 6.1218 | 6.3025 | 6.4624  | ∞    |      |      |  |
| 14%  | 0.8772 | 1.6467 | 2.3216 | 2.9137 | 3.4331 | 3.8887 | 4.2883 | 4.6389 | 4.9464 | 5.2161 | 5.4527 | 5.6603 | 5.8424 | 6.0021 | 6.1422  | ..   |      |      |  |
| 15%  | 0.8696 | 1.6257 | 2.2832 | 2.8550 | 3.3522 | 3.7845 | 4.1604 | 4.4873 | 4.7716 | 5.0188 | 5.2337 | 5.4206 | 5.5831 | 5.7245 | 5.8474  |      |      |      |  |
| 16%  | 0.8621 | 1.6052 | 2.2459 | 2.7982 | 3.2743 | 3.6847 | 4.0386 | 4.3436 | 4.6065 | 4.8332 | 5.0286 | 5.1971 | 5.3423 | 5.4675 | 5.5755  |      |      |      |  |
| 17%  | 0.8547 | 1.5852 | 2.2096 | 2.7432 | 3.1993 | 3.5892 | 3.9224 | 4.2072 | 4.4506 | 4.6586 | 4.8364 | 4.9884 | 5.1183 | 5.2293 | 5.3242  |      |      |      |  |
| 18%  | 0.8475 | 1.5656 | 2.1743 | 2.6901 | 3.1272 | 3.4976 | 3.8115 | 4.0776 | 4.3030 | 4.4941 | 4.6560 | 4.7932 | 4.9095 | 5.0081 | 5.0916  |      |      |      |  |
| 19%  | 0.8403 | 1.5465 | 2.1399 | 2.6386 | 3.0576 | 3.4098 | 3.7057 | 3.9544 | 4.1633 | 4.3389 | 4.4865 | 4.6105 | 4.7147 | 4.8023 | 4.8759  |      |      |      |  |
| 20%  | 0.8333 | 1.5278 | 2.1065 | 2.5887 | 2.9906 | 3.3255 | 3.6046 | 3.8372 | 4.0310 | 4.1925 | 4.3271 | 4.4392 | 4.5327 | 4.6106 | 4.6755  |      |      |      |  |
| 21%  | 0.8264 | 1.5095 | 2.0739 | 2.5404 | 2.9260 | 3.2446 | 3.5079 | 3.7256 | 3.9054 | 4.0541 | 4.1769 | 4.2784 | 4.3624 | 4.4317 | 4.4890  |      |      |      |  |
| 22%  | 0.8197 | 1.4915 | 2.0422 | 2.4936 | 2.8636 | 3.1669 | 3.4155 | 3.6193 | 3.7863 | 3.9232 | 4.0354 | 4.1274 | 4.2028 | 4.2646 | 4.3152  |      |      |      |  |
| 23%  | 0.8130 | 1.4740 | 2.0114 | 2.4483 | 2.8035 | 3.0923 | 3.3270 | 3.5179 | 3.6731 | 3.7993 | 3.9018 | 3.9852 | 4.0530 | 4.1082 | 4.1530  |      |      |      |  |
| 24%  | 0.8065 | 1.4568 | 1.9813 | 2.4043 | 2.7454 | 3.0205 | 3.2423 | 3.4212 | 3.5655 | 3.6819 | 3.7757 | 3.8514 | 3.9124 | 3.9616 | 4.0013  |      |      |      |  |
| 25%  | 0.8000 | 1.4400 | 1.9520 | 2.3616 | 2.6893 | 2.9514 | 3.1611 | 3.3289 | 3.4631 | 3.5705 | 3.6564 | 3.7251 | 3.7801 | 3.8241 | 3.8593  |      |      |      |  |