

Roll No.....

Time allowed : 3 hours

Maximum marks : 100

Total number of questions : 6

Total number of printed pages : 10

NOTE : 1. Answer **ALL** Questions.

2. Tables showing the present value of ₹ 1 and the present value of an annuity of ₹ 1 for 15 years are annexed.

3. Suitable assumptions, if considered necessary, may be made while answering a question. However, such assumptions must be stated clearly.

4. Working notes should form part of the answer.

1. Comment on the following :

- (a) Investment, financing and dividend decisions are inter-related.
- (b) The depository system functions very much like the banking system.
- (c) A stable dividend policy is always preferable to fluctuating dividend policy.
- (d) Stock options are meant for speculators.

(5 marks each)

Attempt all parts of either Q. No. 2 or Q. No. 2A

2. Distinguish between the following :

- (a) 'Factoring' and 'Bill discounting'.
- (b) 'Semi-strong form' and 'Strong form' of efficient market hypothesis.
- (c) 'Financial distress' and 'Insolvency'.
- (d) 'Commodity futures' and 'financial futures'.

(4 marks each)

: 2 :

OR (Alternate question to Q. No. 2)

- 2A. (i) Describe the motives of holding cash.
(ii) Explain Sweat Equity shares.
(iii) Discuss Liquidity Vs Profitability in management of working capital.
(iv) Describe Bridge Finance.

(4 marks each)

Attempt all parts of either Q. No. 3 or Q. No. 3A

3. (a) The MNO company is considering an investment in one of the two mutually exclusive proposals. Project A which involves an initial outlay of ₹ 1,50,000 and project B which has an outlay of ₹ 1,30,000. The certainty equivalent approach is employed in evaluating risky investments. The current yield on treasury bills is 5% p.a. and the company uses this as riskless rate. The expected values of net cash flows with their respective certainty equivalents are :

| Year | Project A | | Project B | |
|------|-------------------------------|-------------------------|-------------------------------|-------------------------|
| | Net Cash flow (₹ thousand) | Certainty equivalent | Net Cash flow (₹ thousand) | Certainty equivalent |
| 1 | 90 | 0.8 | 90 | 0.9 |
| 2 | 100 | 0.7 | 90 | 0.8 |
| 3 | 110 | 0.5 | 100 | 0.6 |

Which project should be acceptable to the company ?

(4 marks)

: 3 :

- (b) A forex trader wants to earn arbitrage gain. He receives 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% p.a. |
| Annualised interest rate for 6 months (₹) | 8% p.a. |

You are required to show 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)

- (c) The following information is available for a component in use at TQR Ltd. :

| | |
|-------------------------------|---------------------|
| Normal usage | 150 units per month |
| Maximum usage | 250 units per month |
| Minimum usage | 50 units per month |
| Economic Order Quantity (EOQ) | 1000 units |
| Lead Time for Orders | 1 to 2 months |

Calculate following parameters for the component :

- (i) Reorder level
- (ii) Maximum level
- (iii) Minimum level
- (iv) Average level.

(4 marks)

: 4 :

- (d) Following are the details regarding operations of XYZ Company Ltd. during a period of last 12 months :

| | |
|------------------------------------|-------------|
| Sales | ₹ 12,00,000 |
| Selling Price per unit | ₹ 10 |
| Variable cost per unit | ₹ 7 |
| Total cost per unit | ₹ 9 |
| Credit period allowed to customers | one month |

The company is considering proposal for a more liberal credit policy by increasing the average collection period from one month to two months. This relaxation is expected to increase sales by 25%.

You are asked to advise the company whether to proceed on adoption of new credit policy assuming that the company's required rate of return on investment is 30% p.a.

(4 marks)

OR (Alternate question to Q. No. 3)

- 3A. (i) During a year, the price of a British Bond (face value £100) rose from £103 to £105 while paying a coupon of £8. At the same time, the exchange rate moved from \$/£ 1.70 to \$/£ 1.58. What is the total annual return in % for an investor in US who invested in the above Bond ?

(4 marks)

- (ii) Calculate (a) the Operating Leverage, (b) Financial Leverage and (c) Combined Leverage from the following data under situations I and II and financial plans, A and B :

| | |
|----------------------------|---|
| Installed capacity | 4,000 units per annum |
| Actual production and sale | 75% of the installed capacity |
| Selling price | ₹ 30 per unit |
| Variable cost | ₹ 15 per unit |
| Fixed cost | Under situation I, ₹ 15,000 Under situation II, ₹ 20,000 |

: 5 :

Capital Structure :

| | Financial Plan | |
|--------------------------|----------------|---------------|
| | A | B |
| Equity | ₹ 10,000 | ₹ 15,000 |
| Debt @ 20% p.a. interest | 10,000 | 5,000 |
| | <u>20,000</u> | <u>20,000</u> |

(4 marks)

(iii) From the following information, calculate the expected rate of return of a portfolio :

| | |
|--|----------|
| Risk-free rate of return | 12% p.a. |
| Expected return on market portfolio | 20% p.a. |
| Standard deviation of an asset | 3% |
| Market standard deviation | 2.5% |
| Correlation coefficient of portfolio with market | 0.80 |

(4 marks)

(iv) Raj Limited had 50,000 equity shares of ₹ 10 each outstanding on January 1st. The shares are currently being quoted at par in the market. The company now intends to pay a dividend of ₹ 2 per share for the current calendar year. It belongs to a risk class whose appropriate capitalisation rate is 15 per cent. Using Modigliani-Miller model and assuming no taxes, ascertain the price of the company's share as it is likely to prevail at the end of the year under following conditions :

- When dividend is declared
- When no dividend is declared
- Also, find out the number of new equity shares that the company must issue to meet its investment needs of ₹ 2 lakh, assuming a net income of ₹ 1.1 lakh and dividend is paid.

(4 marks)

4. Answer the following :

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

(b) ABC Ltd. has furnished the following information :

| | |
|-------------------------|----------|
| Earning per share | ₹ 4 |
| Dividend payout ratio | 25% |
| Market price per share | ₹ 50 |
| Rate of tax | 40% |
| Growth rate of dividend | 10% p.a. |

The company wants to raise additional capital of ₹ 10 lakh including debt of ₹ 4 lakh. The cost of debt (before tax) is 10% p.a. up to ₹ 2 lakh and 15% p.a. beyond that. Compute the Weighted Average Cost of Capital of the company.

(c) Explain use of yield curve in Treasury Management.

(d) Explain how the Sharpe Index Model is different from Multi Index Models.

(4 marks each)

: 7 :

5. (a) The following particulars about four corporate securities (shares) are available :

| Security | Today's Price (₹) | Predicted Price after one year (₹) | Expected Dividend during coming year (₹) | Beta estimates β |
|----------|----------------------|---|--|---------------------------|
| A | 490 | 580 | 7.0 | 1.4 |
| B | 180 | 200 | 7.0 | 1.2 |
| C | 570 | 640 | 5.0 | 1.0 |
| D | 220 | 245 | 6.0 | 0.5 |

Expected rate of return in the market is 14% and the risk-free rate of return is 8%. You are required to calculate for each security :

- The estimated return based on the Capital Asset Pricing Model (CAPM), and
- Predicted Return.

Also state, whether the securities are undervalued or overvalued.

- (b) PQ established the following spread on the AB Corporation's stock :

- Purchased one 3-month call option with a premium of ₹ 30 and an exercise price of ₹ 550.
- Purchased one 3-month put option with a premium of ₹ 5 and an exercise price of ₹ 450.

AB Corporation's stock is currently selling at ₹ 500 with option size of 100 shares.

Determine profit or loss, if the price of AB Corporation's stock :

- Remains at ₹ 500 after 3 months
- Becomes ₹ 350 after 3 months
- Becomes ₹ 600 after 3 months.

(8 marks each)

6. The following annual figures relate to M Ltd.

| | ₹ |
|---|-----------|
| Sales (with two months' credit) | 36,00,000 |
| Materials consumed (suppliers extend two months credit) | 9,00,000 |
| Wages paid (monthly, in arrear) | 7,20,000 |
| Manufacturing expenses (monthly, in arrear) | 9,60,000 |
| Total administrative expenses (monthly, in arrear) | 2,40,000 |
| Sales promotion expenses (quarterly, in advance) | 1,20,000 |

The company sells its products on gross profit of 25% with depreciation as part of the cost of production. It maintains one month's inventory for each of raw materials and finished goods and a cash balance of ₹ 1,00,000.

Assuming a 20% safety margin, work out the working capital requirements of the company on cash cost basis, ignoring work-in-process.

(16 marks)

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TABLE - 1 : PRESENT VALUE OF RUPEE ONE

| RATE | YEAR | YEAR | YEAR | YEAR | YEAR | YEAR | |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|------|------|------|------|------|--|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | |
| 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 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 |
|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|---------|
| 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 | 1.7591 | 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 | 2.4019 | 3.0374 | 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 |