

Roll No.....

Time allowed : 3 hours

Maximum marks : 100

Total number of questions : 7

Total number of printed pages : 7

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 Re.1 and the present value of an annuity of Re.1 for 15 years are annexed.

1. Attempt **any four** of the following :

- (i) "Financial leverage is a fair weather friend." Discuss.
- (ii) "The risk of the portfolio which combines both a risky and a risk-free asset will be reduced to the standard deviation of the risky security, weighted for its proportionate value in the portfolio." Do you agree ? Discuss.
- (iii) "Alpha is an indicator of the extent to which the actual return of a stock deviates from those predicted by its beta value." Discuss.
- (iv) "An investor suffers dilution of financial interest when he does not exercise his pre-emptive rights." Comment.
- (v) "Derivatives are mainly used to control risk to increase returns." Comment.

(5 marks each)

2. (a) An exporter is a UK based company. Invoice amount is \$3,50,000. Credit period is three months. Exchange rates in London are :

Spot Rate (\$/£)	1.5865 – 1.5905
3-Month Forward Rate (\$/£)	1.6100 – 1.6140

Rates of Interest in Money Market :

	<i>Deposit</i>	<i>Loan</i>
\$	7%	9%
£	5%	8%

Compute and show how a money-market hedge can be put in place. Compare and contrast the outcome with a forward contract.

(12 marks)

- (b) Elite Ltd. manufactures a product from a raw material, which is purchased at Rs.100 per kg. The company incurs a handling cost of Rs.300 plus freight of Rs.325 per order. The incremental carrying cost of inventory of raw material is Re.0.50 per kg. per month. In addition, the annual cost of working capital finance on the investment in inventory of raw material is Rs.4 per kg. The annual production of the product is 1,00,000 units and 2 units are obtained from one kg. of raw material.

Required —

- (i) Calculate the economic order quantity (EOQ) of raw materials.
- (ii) Advise how frequently the orders for procurement of raw materials should be placed.
- (iii) If the company proposes to rationalise placement of orders for procurement of raw materials on quarterly basis, what percentage of discount in the price of raw materials should be negotiated?

(8 marks)

3. (a) At different levels of financing, a firm's weighted average cost of capital (WACC) is as follows :

<i>Alternative</i>	<i>Level of Financing</i> (Rs.)	<i>WACC</i> (%)	<i>NPV</i> (Rs.)
1	12,00,000	10	5,00,000
2	18,00,000	12	9,00,000
3	28,00,000	16	15,00,000
4	36,00,000	21	13,00,000

Find out —

- (i) Value added at each level of financing.
- (ii) The optimal size of capital budget.
- (iii) Weighted average cost of capital at optimal level.

(2 marks each)

- (b) Efficient Motors Ltd. (EML), a producer of turbine generators is in this situation : Earning before interest and taxes (EBIT) = Rs.40 lakh; Tax rate (T) = 35%; Debt outstanding (D) = Rs.20 lakh; Rate of interest = 10%; Cost of equity (K_e) = 15%; Shares of stock outstanding (No.) = 6,00,000; and Book value per share = Rs.10. Since EML's product market is stable and the company expects no growth, all earnings are paid out as dividends. The debt consists of perpetual bonds. What is the EML's earnings per share (EPS) and its price per share P_0 ?

EML can increase its debt by Rs.80 lakh to a total of Rs.1 crore using the new debt to buy-back and retire some of its shares at the current price. Its interest rate on debt will be 12% (it will have to call and refund the old debt), and its cost of equity (K_e) will rise from 15% to 17%. EBIT will remain constant. Should EML change its capital structure ?

(10 marks)

- (c) During a year, the price of British Gilts (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 return to an investor in US who invested in the above security ?

(4 marks)

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

- (i) 'Interest swap' and 'currency swap'.
- (ii) 'Financial distress' and 'insolvency'.
- (iii) 'Net present value' and 'profitability index'.
- (iv) 'Investment' and 'speculation'.
- (v) 'Commodity futures' and 'financial futures'.

(5 marks each)

5. (a) Prepare cash budget of Bipasha Ltd. with the data furnished below :

<i>Particulars</i>	<u>Quarter I</u> (Rs.)	<u>Quarter II</u> (Rs.)	<u>Quarter III</u> (Rs.)	<u>Quarter IV</u> (Rs.)
Opening cash balance	10,000	—	—	—
Collection from customers	1,25,000	1,50,000	1,60,000	2,21,000
Purchase of material	20,000	35,000	35,000	54,200
Other expenses	25,000	20,000	20,000	17,000
Salaries	90,000	95,000	95,000	1,09,200
Taxes	5,000	—	—	—
Purchase of machinery	—	—	—	20,000

The company desires to maintain a cash balance of Rs.15,000 at the end of each quarter. Cash can be borrowed or repaid in multiples of Rs.500 at an interest rate of 10%. Management does not want to borrow cash more than what is necessary

and wants to repay as early as possible. In any event, loans cannot be extended beyond four quarters. Interest is computed and paid when the principal amount is repaid. Assume that borrowings take place at the beginning and payments are made at the end of quarter.

(15 marks)

- (b) The prevailing risk-free rate of interest in 10-Year GOI Treasury Bonds is 5.5%. The average risk premium is 8%. The beta of the company is 1.1875. The company now wants to take up a project requiring an investment of Rs.75 crore with a debt-equity ratio of 20%. The beta of this project is 1.4375. The debt can be raised at an interest rate of 9.5% upto first Rs.10 crore and @ 10% for the rest of the amount. Find out the marginal cost of capital, if the tax rate is 35%.

(5 marks)

6. Exacta Ltd. is considering the replacement of its existing machine by a new one which is expected to cost Rs.2,70,000 with a life of 5 years and salvage value being Rs.20,000. The machine will yield annual cash revenue of Rs.5,70,000 and annual cash expenses of Rs.2,96,000.

The existing machine has a book value of Rs.92,000 and can be sold for Rs.46,000 today. It has a remaining useful life of 5 years. Cash revenues will be Rs.4,50,000 and associated cash expenses will be Rs.3,20,000 per annum. The existing machine will have a salvage value of Rs.4,600 at the end of 5 years.

Exacta Ltd. is in a 35% tax bracket and writes off depreciation @ 25% per annum on written down value (WDV) method. Exacta Ltd. has a target debt-equity ratio of 20%. The company in the past has raised debt at 12% and it can now be raised at 10%. Exacta Ltd. follows the dividend discount model to estimate the cost of equity capital. Last year the company paid a dividend of Rs.1.85 per share. The current market price of the company's equity share is Rs.20 per share. A growth rate of 8% per annum is anticipated. (Ignore capital gain tax.)

Required —

- (i) Investment required on incremental basis.
- (ii) Incremental depreciation per year.
- (iii) Weighted average cost of capital.
- (iv) Computation of present worth factors.
- (v) Before tax incremental cash flows based on revenue and expenses.
- (vi) Incremental terminal cash flow.
- (vii) Computation of NPV.
- (viii) Should the new machine be acquired ? Why ?

(20 marks)

: 5 :

7. Write notes on **any four** of the following :
- (i) Gilt-edged primary market
 - (ii) Essential elements of forex management
 - (iii) Yield curve and treasury management
 - (iv) Securitisation of financial assets
 - (v) Participants in derivatives market.

(5 marks each)

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TABLE - I : PRESENT VALUE OF RUPEE ONE

RATE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 15
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 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	YEAR 6	YEAR 7	YEAR 8	YEAR 9	YEAR 10	YEAR 11	YEAR 12	YEAR 13	YEAR 14	YEAR 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	2.4018	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