

# 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) NPV decision rule does not hold true in the situation of capital rationing.
  - (ii) Risk is always associated with receivables.
  - (iii) The strategy for effective cash management in any firm has a core component of operating cycle.
  - (iv) Treasury function is supplemental and complementary to the finance function in a firm.
  - (v) Capital Asset Pricing Model (CAPM) is a tool to work out cost of equity.
- (5 marks each)

2. (a) During a 5 year period, the relevant results for the aggregate market are that the risk-free rate ( $r_f$ ) is 8% and the return on market ( $r_m$ ) is 14%. For that period, the results of five portfolio managers are as follows :

Portfolio Manager	Actual Average Return (%)	Beta ( $\beta$ )
A	13	0.80
B	14	1.05
C	17	1.25
D	13	0.90
E	15	0.95

Using CAPM model, you are required to —

- (i) Calculate the expected rate of return for each portfolio manager and compare the actual returns with the expected returns; and
- (ii) Based upon your calculations, select the portfolio manager with the best performance.

(6 marks)

: 2 :

(b) You are given the following information :

Spot rate (1 US \$)	= ₹ 48.0123
180 days forward rate (1 US \$)	= ₹ 48.8190
Annualised interest rate for 6 months (₹)	= 12%
Annualised interest rate for 6 months (US \$)	= 8%

Is there any arbitrage possibility ? If yes, how can an arbitrageur take advantage of the situation if he is willing to borrow ₹ 40,00,000 or US \$83,312 ?

(4 marks)

(c) The following information is related to Sunrise Ltd. :

	₹
Sales	4,00,000
Less : Variable expenses 35%	<u>1,40,000</u>
Contribution	2,60,000
Less : Fixed expenses	<u>1,80,000</u>
EBIT	80,000
Less: Interest	<u>10,000</u>
Taxable income	<u><u>70,000</u></u>

You are required to submit the following to management of the company :

- (i) What percentage will taxable income increase, if the sales increase by 6% ? Use combined leverage. (2 marks)
- (ii) What percentage will EBIT increase, if there is a 10% increase in sales ? Use operating leverage. (1 mark)
- (iii) What percentage will taxable income increase, if EBIT increases by 6% ? Use financial leverage. (1 mark)

(d) Priyanka Ltd. requires 2,000 units of an item annually. The cost of the item per unit is ₹ 20 and ordering cost is ₹ 50 per order. If the carrying cost is 25% of the cost of item, find the optimum lot size.

If the company purchases in lots of 1,000 or more units of the item, it gets a rebate of 3%. Should the company accept the offer ?

(6 marks)

: 3 :

3. (a) Maxwell Ltd. is operating in electronic equipments development and its sales and earnings before interest and taxes for the current year were ₹ 70,00,000 and ₹ 18,00,000 respectively. During the year, interest expense was ₹ 16,000 and preference dividend was ₹ 20,000. These fixed charges are expected to continue for the next year. The company is thinking to diversify its operations which will require ₹ 7,00,000 and is expected to increase EBIT by ₹ 4,00,000 to ₹ 22,00,000.

The company has the following three financing alternatives under its consideration :

*Alternative-1* : Issue 10,000 equity shares at ₹ 70 per share. The company has currently 80,000 shares of common stock outstanding.

*Alternative-2* : Issue ₹ 7,00,000, 15 years 15% debentures. Sinking fund payments on these debentures will commence after 15 years.

*Alternative-3* : Issue ₹ 7,00,000, 14% preference shares.

You are required to calculate —

- (i) The EPS at the expected earnings before interest and taxes level of ₹ 22,00,000 for each financing alternative.
- (ii) The equivalency level of earnings before interest and taxes between the debt and common stock alternatives.
- (iii) The equivalency level of earnings before interest and taxes between the preference shares and common stock alternatives.

Assume 30% income-tax rate.

(12 marks)

- (b) Identify the profit or loss (ignoring dealing cost and interest) in each of the following cases :

- (i) A put option with exercise price of ₹ 250 is bought for a premium of ₹ 42. The price of underlying share is ₹ 189 at the expiry date.
- (ii) A put option with an exercise price of ₹ 300 is written for a premium of ₹ 57. The price of the underlying share is ₹ 314 at the expiry date.

(4 marks)

- (c) Sawan Ltd. currently has sales of ₹ 30,00,000 with an average collection period of two months. At present, no discounts are offered to the customers. The management of the company is thinking to allow a discount of 2% on cash sales which will result as under :

- (i) The average collection period would reduce to one month.
- (ii) 50% of customers would take advantage of 2% discount.

The company would normally require a 25% return on its investment.

Advise the management whether to extend the discount on cash sales.

(4 marks)

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

- (i) 'Financial distress' and 'insolvency'.
- (ii) 'Open ended mutual funds' and 'close ended mutual funds'.
- (iii) 'Accounting exposure' and 'economic exposure'.
- (iv) 'Semi-strong form of efficient market hypothesis' and 'strong form of efficient market hypothesis'.
- (v) 'Factoring' and 'bill discounting'.

(5 marks each)

5. (a) Vivek is holding 1,000 shares of Right Choice Ltd. The current rate of dividend paid by the company is ₹ 5 per share and the share is being sold at ₹ 50 per share in the market. However, several factors are likely to change during the course of the year as indicated below :

	<i>Existing</i>	<i>Revised</i>
Risk free rate	14%	12%
Market risk premium	8%	6%
Beta ( $\beta$ ) value	1.42	1.27
Expected growth rate	6%	10%

In view of above factors, whether Vivek should buy, hold or sell the shares and why ?

(6 marks)

(b) Ruta Max Ltd. and Buta Max Ltd. operate in the same risk class and are identical in all respect except that Ruta Max Ltd. uses debt financing while Buta Max Ltd. does not opt for debt financing.

Ruta Max Ltd. has ₹ 25,00,000 debentures carrying coupon rate of 10%. Both the companies earn 20% profit before interest and taxes on their total assets of ₹ 50 lakh. Assume perfect capital markets and rational investors and so on. The capitalisation rate for an all equity company is 15%. The corporate tax rate is 30%.

You are required to compute the value of both companies according to net income (NI) and net operating income (NOI) approach.

(8 marks)

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- (c) Touch Wood Ltd. has a portfolio of capital projects which yield an average expected rate of return of 15% per annum. This return is subject to risk and this is estimated as a standard deviation of probabilities of expected returns of 2.5%. The risk free rate of interest is 6% per annum. Three projects have come up for consideration by Board of directors and these are designated as project A, B and C. Details of the estimates made for them appear below :

	<i>Project</i>		
	<i>A</i>	<i>B</i>	<i>C</i>
Expected return (%)	12	10	8
Risk (standard deviation of probability distribution)	1%	1.4%	2.4%
Co-efficient of correlation of project returns with portfolio returns	+ 0.58	+ 0.94	- 0.1

Determine in each case whether you would recommend acceptance of the project. Since all the three projects promise a yield less than the expected on the current portfolio, one member of Board of directors asks why they should be considered at all. How would you answer him ?

(6 marks)

6. Ice Decor Ltd. sells goods at a uniform rate of gross profit of 20% on sales including depreciation as part of cost of production. Its annual figures for the current year are as under :

	₹
Sales (at 2 months' credit)	24,00,000
Materials consumed (suppliers' credit 2 months)	6,00,000
Wages paid (monthly at the beginning of the subsequent month)	4,80,000
Manufacturing expenses (cash expenses are paid — one month in arrear)	6,00,000
Administration expenses (cash expenses are paid — one month in arrear)	1,50,000
Sales promotion expenses (paid quarterly in advance)	75,000

The company keeps one month stock each of raw materials and finished goods. A minimum cash balance of ₹ 80,000 is always kept. The company wants to adopt a 10% safety margin in the maintenance of working capital. The company has no work-in-progress.

Find out the requirement of working capital of the company on cash cost basis.

(20 marks)

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

- (i) External commercial borrowings
- (ii) Financial viability of a project
- (iii) Counter party risk
- (iv) Optimal capital structure
- (v) Zero coupon convertible notes.

(5 marks each)

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TABLE - 1 : PRESENT VALUE OF RUPEE ONE

RATE	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	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	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	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	YEAR	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	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						