

Gurukripa's Guideline Answers to May 2014 Exam Questions CA Final STRATEGIC FINANCIAL MANAGEMENT

Question 1 is compulsory ($4 \times 5 = 20$ Marks)

Answer **any five** questions from the **remaining six** questions ($16 \times 5 = 80$ Marks). [Answer any 4 out of 5 in Q.7]

Note: All Page Numbers and Question Numbers References and given from Padhuka's Students' Referencer on Strategic Financial Management – CA Final.

Question 1 (a): Valuation of Securities – Dividend Growth Model

5 Marks

MNP Ltd has declared and paid annual dividend of ₹ 4 per Share. It is expected to grow at 20% for the next two years and 10% thereafter. The required Rate of Return of Equity Investors is 15%. Compute the Current Price at which Equity Shares should sell.

Note: Present Value Interest Factor (PVIF) @ 15%, are For Year 1 = 0.8696, and For Year 2 = 0.7561

Solution:

Similar to Page 10.16, Q.No.6 [RTP, M 97]

Computation of Market Price per Share = PV of Inflows

Year	Nature	Cash Flow	PVF @ 15%	DCF
1	Dividend	$4 + 20\% = 4.80$	0.8696	4.1741
2	Dividend	$4.8 + 20\% = 5.76$	0.7561	4.3551
2	MPS at the end of Year 2 = $\frac{D_3}{K_e - g}$	$\frac{5.76 \times 1.1}{15\% - 10\%} = 126.72$	0.7561	95.8130
			Market Price =	₹ 104.34

Question 1 (b): Capital Budgeting

5 Marks

ABC Chemicals is evaluating two alternative systems for Waste Disposal, System A and System B, which have lives of 6 years and 4 years respectively. The initial investment outlay and annual operating costs for the two systems are expected to be as follows:

Particulars	System A	System B
Initial Investment Outlay	₹ 5 million	₹ 4 million
Annual Operating Costs	₹ 1.5 million	₹ 1.6 million
Salvage value	₹ 1 million	₹ 0.5 million

If the Hurdle Rate is 15%, which system should ABC Chemicals choose?

The PVIF @ 15% for the six years are as below:

Year	1	2	3	4	5	6
PVIF	0.8696	0.7561	0.6575	0.5718	0.4972	0.4323

Solution:

Similar to Page 2.40, Q.No.25 [M 00]

Note: PV Annuity Factor (15%, 6 Years) = $0.8696 + 0.7561 + 0.6575 + 0.5718 + 0.4972 + 0.4323 = 3.7845$
 PV Annuity Factor (15%, 4 Years) = $0.8696 + 0.7561 + 0.6575 + 0.5718 = 2.8550$

Computation of Equated Annual Cost (amounts in M/c A and B Columns in ₹ Millions)

Particulars	Year	PVF 15%	Machine A		Machine B	
			Cash Flow	DCF	Cash Flow	DCF
Purchase Cost	0	1.0000	5.0000	5.0000	4.0000	4.0000
Operating Cost (A)	1 – 6	3.7845	1.5000	5.6768	–	–
Operating Cost (B)	1 – 4	2.8550	–	–	1.6000	4.5680
Salvage Value (inflow)	A – 6 th Year B – 4 th Year	0.4323 0.5718	1.0000	(0.4323)	0.5000	(0.2859)

Particulars	Year	PVF 15%	Machine A	Machine B
PV of Outflows (a)			10.2445	8.2821
Annuity Factor for Machine Life (b)		6 years	3.7845	4 years
Equivalent Annual Cost (EAC)=(a ÷ b)			2.7069	2.9001

Conclusion: Machine A can be chosen, due to lower EAC.

Question 1 (c): Commercial Paper – Cost of Issue

5 Marks

AXY Ltd is able to issue Commercial Paper of ₹ 50,00,000 every 4 months at a rate of 12.5% p.a. The cost of placement of Commercial Paper Issue is ₹ 2,500 per issue. AXY Ltd, is required to maintain line of credit ₹ 1,50,000 in bank balance. The applicable income tax rate for AXY Ltd, is 30%. What is the cost of funds (after taxes) to AXY Ltd, for Commercial Paper Issue? The maturity of Commercial Paper is four months.

Solution:

Similar to Page 12.21, Q.No.5 [M 06, N 10]

Note: Line of Credit: (i.e. temporary credit limit offered by the Banks)

- (a) **Purpose:** Corporates issuing Commercial Papers should maintain Line of Credit with the Bankers. The purpose of maintaining Line of Credit is to protect the interest of investors against default risk by the Companies
- (b) **Analysis:** In the present case, it is assumed that Line of Credit is a deposit maintained with the Bankers by the Company. To that extent, funds will not be available for utilization. Interest Earned from Line of Credit Deposit is ignored, due to lack of information.

Computation of Cost of Funds

Particulars	Computation	Result
1. Post Tax Interest Rate p.a.	= $12.50 \times (100\% - 30\%)$	= 8.75%
2. Effective Interest Rate p.a.	= $\frac{\text{₹ } 50,00,000 \times 8.75\%}{\text{₹ } 50,00,000 - \text{₹ } 1,50,000} =$	= 9.02%
3. Cost of Issue	= $\frac{\text{₹ } 2,500}{\text{₹ } 50,00,000 - \text{₹ } 1,50,000} \times \frac{12 \text{ Months}}{4 \text{ Months}} \times 100$	= 0.1546%
4. Total Cost of Funds p.a.	= Interest 9.02% + Cost of Issue 0.1546%	= 9.1746%

Note: Assumed that cost of issue of funds is not an allowable expenditure for Tax purpose.

Alternative Treatments and Assumptions may be adopted for computation of Cost of Funds.

Question 1 (d): Computation of Gain – Cross Currency Rate.

5 Marks

The Bank sold Hong Kong Dollar 1,00,000 spot to its customer at ₹7.5681 and covered itself in London Market on the same day, when the Exchange Rates were – US \$ 1 = HK \$ 8.4409 HK \$ 8.4500. Local Inter-Bank Market Rates for US \$ were – Spot US \$ 1 = ₹ 62.7128 ₹ 62.9624. Calculate the Cover Rate and ascertain the Profit or Loss in the transaction. Ignore Brokerage.

Solution:

Similar to Page 17.28, Q.No.6 [M 05, N 13]

1. Computation of Buy Rate for the Bank

Facts: The Bank has sold HKD to its customer. Therefore, to cover itself, the Bank would have bought HKD in London Market. Therefore, Ask Rate is relevant (the rate at which third party Sells the Foreign Currency)

$$\begin{aligned}
 \frac{\text{INR (Ask Rate)}}{\text{HKD}} &= \frac{\text{INR (Ask Rate)}}{\text{USD}} \times \frac{\text{USD (Ask Rate)}}{\text{HKD}} \\
 &= 62.9624 \times \left[1 \div \frac{\text{HKD}}{\text{USD}} (\text{Bid Rate}) \right] \\
 &= 62.9624 \times \frac{1}{8.4409} \\
 &= \mathbf{7.4592}
 \end{aligned}$$

2. Computation of Gain / Loss to Bank

Particulars	Value
Rate at which Bank has sold HKD to its Customers	7.5681
Less: Rate at which Bank has bought HKD from London Market	7.4592
Gain per HKD sold	0.1089
HKD Sold	1,00,000
Total Gain to Bank	₹ 10,890

Question 2 (a): Capital Budgeting – Subsidiary vs Export**10 Marks**

A Multinational Company is planning to set up a Subsidiary Company in India (where hitherto it was exporting) in view of growing demand for its product and competition from other MNCs. The Initial Project Cost (consisting of Plant and Machinery including installation) is estimated to be US \$ 500 Million. The Net Working Capital requirements are estimated at US \$ 50 Million. The Company follows straight line method of depreciation. Presently, the Company is exporting two million units every year at a Unit Price of US \$ 80, its Variable Cost per unit being US \$ 40.

The Chief Financial Officer has estimated the following Operating Cost and other data in respect of proposed project:

- (i) Variable Operating Cost will be US \$ 20 per unit of production.
- (ii) Additional Cash Fixed Cost will be US \$ 30 Million p.a. and the Project's share of Allocated Fixed Cost will be US \$ 3 Million p.a. based on principle of ability to share.
- (iii) Production Capacity of the proposed project in India will be 5 Million units.
- (iv) Expected Useful Life of the proposed plant is five years with no salvage value.
- (v) Existing Working Capital Investment for production & sale of two million units through exports was US \$ 15 Million.
- (vi) Export of the product in the coming year will decrease to 1.5 million units in case the Company does not open Subsidiary Company in India, in view of the presence of competing MNCs that are in the process of setting up their Subsidiaries in India.
- (vii) Applicable Corporate Income Tax Rate is 35%, and
- (viii) Required Rate of Return for such Project is 12%.

Assuming that there will be no variation in the exchange rate of two currencies, and all profits will be repatriated, as there will be no withholding tax, estimate Net Present Value (NPV) of the proposed project in India.

Present Value Interest Factors (PVIF) @ 12% for five years are as below:

Year	1	2	3	4	5
PVIF	0.8929	0.7972	0.7118	0.6355	0.5674

Solution:**Similar to Page 2.18, Q No.5 [RTP]****(All amounts in \$ Millions)****1.Computation of Additional CFAT p.a.**

Particulars	\$ Millions
Additional Contribution from Subsidiary:	
Contribution from Subsidiary = 5 Million Units × (SP 80 – VC 20)	300
Less: Contribution if Exports are continued = 1.5 Million Units × (SP 80 – VC 40)	<u>(60)</u>
Less: Additional Fixed Costs (given)	(30.00)
Additional Depreciation (500 million ÷ 5 years)	(100.00)
Additional Earnings before Tax	110.00
Less: Tax at 35%	(38.50)
Additional Earnings after Tax	71.50
Add: Additional Depreciation	100.00
Additional CFAT	171.50

Note: Present Export Quantity of 2 Million Units is not relevant since it does not relate to the proposed environment situation. Also, Allocated / Apportioned Fixed Costs based on Ability to Share is not relevant for decision-making.

2.Computation of Net Present Value

Year	Inflows / (Outflows)	PVF at 12%	DCF
Year 1 to 5	Additional CFAT: 171.50	$0.8929 + 0.7972 + 0.7118 + 0.6355 + 0.5674$ = 3.6048	618.27
Year 5	NWC Recovery: 50.00	0.5674	28.37
Year 0	Initial Investment: M/c 500 + NWC (50-15) (See Note) = 535.00	1.0000	(535.00)
NPV			111.59

Note: It is assumed that the Incremental Working Capital Investment in Year 0 of having a Subsidiary will be **net** of Working Capital Recovered from Export Operations. Alternatively, it can be assumed at extra investment of 50, by ignoring the Working Capital of Export Operations.

Conclusion: The NPV of the project is positive, and it is viable to have a Subsidiary.

Question 2 (b): Takeover, Minimum and Maximum Prices**6 Marks**

The Equity Shares of XYZ Ltd are currently being traded at ₹ 24 per Share in the market. XYZ Ltd has total 10,00,000 Equity Shares outstanding in number, and Promoters' Equity holding in the Company is 40%.

PQR Ltd wishes to acquire XYZ Ltd because of likely synergies. The estimated Present Value of these Synergies is ₹ 80,00,000.

Further, PQR feels that the management of XYZ Ltd has been over paid. With better motivation, lower salaries and fewer perks for the top management, will lead to savings of ₹ 4,00,000 p.a. Top Management with their families are Promoters of XYZ Ltd. Present Value of these savings would add ₹ 30,00,000 in value to the acquisition.

Following additional information is available regarding PQR Ltd:

Earnings per Share	: ₹ 4
Total Number of Equity Shares Outstanding	: 15,00,000
Market Price of Equity Share	: ₹ 40

Required:

- What is the Maximum Price per Equity Share which PQR Ltd can offer to pay for XYZ Ltd?
- What is the minimum Price per Equity Share at which the management of XYZ Ltd will be willing to offer their controlling interest?

Solution:

Similar to Page 18.38, Q.No.17 [M 06]

Future Profits in the Amalgamated Company is increased due to the following –

- Benefit out of Synergy = ₹ 80 Lakhs. This is attributable to both XYZ and PQR.
- Benefit out of reduced payment to promoters = ₹ 30 Lakhs. This is wholly attributable to XYZ.

Particulars relating to Share of XYZ	Full Synergy Benefit attributed to XYZ Ltd	Full Synergy Benefit attributed to PQR Ltd
Existing Market Capitalization (10 Lakh Shares × ₹ 24)	₹ 240 Lakhs	₹ 240 Lakhs
Add: Present Value of Savings of Promoters Sacrifice	₹ 30 Lakhs	₹ 30 Lakhs
Add: Present Value of Synergy if fully attributed to XYZ	₹ 80 Lakhs	–
Revised Market Capitalization	₹ 350 Lakhs	₹ 270 Lakhs
Number of Shares	10 Lakh	10 Lakh
Price that can be paid	₹ 35 per Share = Maximum Price	₹ 27 per Share = Minimum Price

Question 3(a): Computation of NAV**8 Marks**

Based on the following data, estimate the Net Asset Value (NAV) on per unit basis of a Regular Income Scheme of a Mutual Fund:

Particulars	₹ Lakhs
Listed Equity Shares at cost (ex-dividend)	40.00
Cash in Hand	2.76
Bond & Debentures at Cost	8.96
Of these, Bonds not listed & not quoted	2.50
Other Fixed Interest Securities at Cost	9.75
Dividend Accrued	1.95
Amount Payable on Shares	13.54
Expenditure accrued	1.76

Current Realizable Value of Fixed Income Securities of Face Value of ₹ 100 is ₹ 96.50.

Number of Units (₹ 10 Face Value each): 2,75,000

All the Listed Equity Shares were purchased at a time when Market Portfolio Index was 12,500. On NAV date, the Market Portfolio Index is at 19,975.

There has been a diminution of 15% in Unlisted Bonds and Debentures Valuation.

Listed Bonds and Debentures carry a Market Value of ₹ 7.5 Lakhs, on NAV date.

Operating Expenses paid during the year amounted to ₹ 2.24 Lakhs.

Solution:

Similar to 8.12, Q.No.2 [M 10]

Particulars	₹ Lakhs
1. Listed Shares (Cost 40.00 × $\frac{\text{Present Index} \times 19,975}{\text{Previous Index} \times 12,500}$)	63.92
2. Cash in Hand	2.76
3. Bonds and Debentures at Cost	
(a) Unlisted / Unquoted Bonds (Cost 2.50 Less 15% Diminution)	2.125
(b) Listed Bonds and Debentures	7.50
(c) Other Fixed Interest Securities (Cost ₹ 9.75 Lakhs × Current Realizable Value 96.50 ÷ FV 100.00)	9.40875
4. Dividend Accrued	1.95
Total of Assets	87.66375
1. Amount Payable on Shares	13.54
2. Expenditure Accrued	1.76
Total of Liabilities	15.30
Net Asset Value	72.36375
No. of Units Outstanding (in Lakhs)	2.75
NAV Per Unit = $\frac{\text{Net Assets of the Scheme}}{\text{Number of Units outstanding}} = \frac{72.36375}{2.75} = ₹ 26.3141$	

Note: Operating Expense paid is neither an asset nor a liability. Hence, it is not considered for NAV valuation.

Question 3 (b): Effect of Forward Cover

8 Marks

JKL Ltd, an Indian Company, has an export exposure of JPY 10,000,000 payable August 31, 2014. Japanese Yen (JPY) is not directly quoted against Indian Rupee.

The current Spot Rates are:

INR/US \$ = ₹ 62.22

JPY/US \$ = JPY 102.34

It is estimated that Japanese Yen will depreciate to 124 level and Indian Rupee to depreciate against US \$ to ₹ 65.

Forward Rates for August 2014 are:

INR/US \$ = ₹ 66.50

JPY/US \$ = JPY 110.35

Required:

(i) Calculate the Expected Loss, if the hedging is not done. How the position will change, if the Firm takes Forward Cover?

(ii) If the Spot Rates on August 31, 2014 are: $\text{INR/US \$} = ₹ 66.25$ $\text{JPY/US \$} = \text{JPY } 110.85$

Is the decision to take Forward Cover justified?

Solution:

Similar to Page 17.37, Q.No.22

Computation of INR to JPY at various rates: $\frac{\text{INR}}{\text{JPY}} = \frac{\text{INR}}{\text{USD}} \times \frac{\text{USD}}{\text{JPY}} = \frac{\text{INR}}{\text{USD}} \times 1 / \frac{\text{JPY}}{\text{USD}}$
(Amount is receivable by JKL Ltd)

The computation at various rates are as under –

Expected Depreciated Rate	Present Spot Rate	Forward Rate	Future Spot Rate
(WN 1)	(WN 2)	(WN 3)	(WN 4)
$65.00 \times \frac{1}{124} = ₹ 0.5242$	$62.22 \times \frac{1}{102.34} = ₹ 0.6080$	$66.50 \times \frac{1}{110.35} = ₹ 0.6026$	$66.25 \times \frac{1}{110.85} = ₹ 0.5977$

Particulars	Computation	₹
(a) Expected FOREX Loss if Hedging is not done (WN 1 – WN 2)	$= 10,000,000 \text{ JPY} \times (0.5242 - 0.6080)$	(8,38,000)
(b) Expected FOREX Loss if Hedging is done (WN 3 – WN 2)	$= 10,000,000 \text{ JPY} \times (0.6026 - 0.6080)$	(54,000)
(c) Effect of Forward Cover = Profit (WN 3 – WN 4)	$= 10,000,000 \text{ JPY} \times (0.6026 - 0.5977)$	49,000

Conclusion:

- (a) Apparently, Forward Cover is justified, since it results in higher Cash Flows than Future Spot Rate.
(b) It may be noted that, in any case, Forward Cover is justified (whether profit or not) since it will reduce FOREX Price Risks of the Company.

Question 4 (a): EVA

8 Marks

RST Ltd 's current financial year's Income Statement reported its Net Income as ₹ 25,00,000. The applicable Corporate Income Tax Rate is 30%.

Following is the Capital Structure of RST Ltd at the end of current financial year –

Following data is given to estimate Cost of Equity Capital –

Debt (Coupon Rate = 11%)	₹ 40 Lakhs
Equity (Share Capital + Reserves & Surplus)	₹ 125 Lakhs
Invested Capital	₹ 165 Lakhs

Beta of RST Ltd.	1.36
Risk-Free Rate, i.e. current yield on Govt. Bonds	8.5%
Average Market Risk Premium (i.e. excess of return on Market Portfolio over Risk-Free Rate)	9%

Required:

- (i) Estimate Weighted Average Cost of Capital (WACC) of RST Ltd and
(ii) Estimate Economic Value Added (EVA) of RST Ltd.

Solution:

Similar to Page 18.64, Q.No.43 & Q No 44 [N 10, M 11, N 04, M 12]

1. Computation of Weighted Average Cost of Capital

Component	Proportion	Individual Cost	WACC
Debt	$\frac{40}{165}$	$K_d = 11\% \times (100\% - 30\%) = 7.70\%$	1.87%
Equity	$\frac{125}{165}$	$K_e = R_f + \beta (R_m - R_f) = 8.5\% + 1.36 \times 9\% = 20.74\%$	15.71%
		WACC	17.58%

2.Computation of Economic Value Added

Particulars	₹
Operating Profit After Taxes (given)	25,00,000
Less: WACC × Capital Employed (17.58% × ₹ 165 Lakhs)	(29,00,700)
Economic Value Added	(4,00,700)

Question 4 (b): Valuation with Free Cash Flow Approach – Different Growth Rates**8 Marks**

Following information is given in respect of WXY Ltd., which is expected to grow at a rate of 20% p.a. for the next three years, after which the growth rate will stabilize at 8% p.a. normal level, in perpetuity.

Particulars	For the year ended March 31 st 2014
Revenues	₹ 7,500 Crores
Cost of Goods Sold (COGS)	₹ 3,000 Crores
Operating Expenses	₹ 2,250 Crores
Capital Expenditure	₹ 750 Crores
Depreciation (included in COGS & Operating Expenses)	₹ 600 Crores

During high growth period, Revenues & Earnings before Interest & Tax (EBIT) will grow at 20% p.a. and capital expenditure net of depreciation will grow at 15% p.a. From Year 4 onwards, i.e. normal growth period Revenues and EBIT will grow at 8% p.a. and incremental capital expenditure will be offset by the depreciation. During both high growth & normal growth period, Net Working Capital Requirement will be 25% of Revenues.

The Weighted Average Cost of Capital (WACC) of WXY Ltd is 15%. Corporate Income Tax Rate will be 30%.

Required: Estimate the value of WXY Ltd using Free Cash Flows to Firm (FCFF) & WACC methodology.

The PVIF @ 15% for the three years are as below:

Year	t ₁	t ₂	t ₃
PVIF	0.8696	0.7561	0.6575

Solution:

Similar to Page 18.26, Q.No.7 [M 10]

Note: Value of the Firm will be determined based on Free Cash Flows, i.e. after considering all Taxes and Capital Expenditures proposed, before charging Interest on Loans. The Value so computed, will include Value of all Assets of the Company, net of Trading Liabilities.

1. Computation of Working Capital Cash Flows (₹ Crores)

Particulars / Years	1	2	3	4 onwards
Revenue	9,000 (7500 + 20%)	10,800.00 (9000 + 20%)	12,960.00 (10800 + 20%)	13996.80 (12960 + 8%)
Working Capital (25% of Revenue)	2250	2700	3240	3499.20
Increase in Working Capital	375 (9000 – 7500 × 25%)	450	540	259.20

2. Computation of Operating Cash Flows

Particulars / Years	1	2	3	4	5 onwards
EBIT (assuming after Depreciation) (Note 1)	2700 (2250 + 20%)	3240 (2700 + 20%)	3888 (3240 + 20%)	4199.04 (3888 + 8%)	
Earnings After Tax (EBIT – 30%)	1890	2268	2721.60	2939.33	
Add: Depreciation	690 (600 + 15%)	793.50 (690 + 15%)	912.53 (793.50 + 15%)	– (Note 2)	
Less: Capital Expenditure	(862.50) (750 + 15%)	(991.88) (862.50 + 15%)	(1140.66) (991.88 + 15%)	– (Note 2)	
Less: Increase in Working Capital	(375)	(450)	(540)	(259.20)	
Net Cash Flows	1342.50	1619.63	1953.47	2680.13	41,350.55 (Note 3)
PVIF	0.8696	0.7561	0.6575	0.5718	0.5718
Sub – total	1167.44	1224.60	1284.41	1532.50	23644.24
Total value of the Firm					28853.19

Note 1: Present EBIT = Revenue (–) COGS and Operating Expenses = 7,500 – 3,000 – 2,250 = ₹ 2,250 Crores.

Note 2: From Year 4 onwards, Capital Expenditure is offset by depreciation. Therefore, increase in Cash Flow on account of depreciation, will be offset by decrease in Cash Flow due to Capital Expenditure.

Note 3: Future Cash Flows from Year 5 onwards (constant growth rate of 8% on Net Cash Flows)

$$\text{PV of Future Cash Flows (at the end of Year 4)} = \frac{\text{CF at the end of Year 5}}{k_e - g} = \frac{2680.13 \times 1.08}{15\% - 8\%} = \mathbf{41350.55}$$

Question 5 (a): Evaluation of Factoring Proposal

8 Marks

The Credit Sales and Receivables of DEF Ltd at the end of year are estimated at ₹ 561 Lakhs and ₹ 69 lakhs respectively. The average Variable Overdraft Interest Rate is 5% p.a. DEF Ltd is considering a factoring proposal for its receivables on a non-recourse basis at an annual fee of 1.25% of Credit Sales.

As a result, DEF Ltd will save ₹ 1.5 Lakhs p.a. in Administrative Cost and ₹ 5.25 Lakhs p.a. as Bad Debts. The Factor will maintain a receivables collection period of 30 days and will provide 80% of Receivables as advance at an interest rate of 7% p.a. You may take 365 days in a year for the purpose of calculation of receivables.

Required – Evaluate the viability of factoring proposal.

Solution:

Similar to Page 4.9, Q.No.5 [M 10]

Particulars		₹
Savings	Administrative Cost	1,50,000
	Bad Debts	5,25,000
	Interest on Overdraft = Saved Opportunity Gain (Average Receivable ₹ 69 Lakhs × 5%)	3,45,000
	Total Savings	10,20,000
Cost	Annual Fee to Factor (1.25% × ₹ 5,61,00,000)	7,01,250
	Interest Payable to Factor (₹ 561.00 Lakhs × 80% × 30/365 × 7%)	2,58,214
	Interest Payable to Banker for balance financing (₹ 561.00 Lakhs × 30/365 × 20% × 5%)	46,109
	Total Cost	10,05,573
Net Benefit / (Cost)		14,427

Conclusion: Factoring Facility is viable, since it results in an additional benefit of ₹ 14,427.

Question 5 (b): Use of Cross Currency Quotes

8 Marks

On January 28, 2013 an importer customer requested a Bank to remit Singapore Dollar (SGD) 2,500,000 under an irrevocable Letter of Credit (LC). However, due to unavoidable factors, the Bank could effect the remittances only on February 4, 2013. The inter-bank market rates were as follows:

	January 28, 2013	February 4, 2013
US \$ 1 =	₹ 45.85/45.90	₹ 45.91/45.97
GBP £ 1 =	US \$ 1.7840/1.7850	US \$ 1.7765/1.7775
GBP £ 1 =	SGD 3.1575/3.1590	SGD 3.1380/3.1390

The Bank wishes to retain an exchange margin of 0.125%.

Required:

How much does the customer stand to gain or lose due to the delay? (Note: Calculate the rate in multiples of 0.0001)

Solution:

Similar to Page 17.28, Q.No.5 [RTP, M 05, N 11]

The Customer is an Importer, and is remitting SGD. Hence, the relevant rate is Ask Rate (i.e. rate at which the Banker will sell the Foreign Currency). So, the strategy will be to Buy US \$ Ask Rate, GBP at Ask Rate and SGD at Ask Rate. So, the formula for computation will be as:

$$\frac{\text{INR}}{\text{SGD}} (\text{A}) = \frac{\text{INR}}{\text{USD}} (\text{A}) \times \frac{\text{USD}}{\text{GBP}} (\text{A}) \times \frac{\text{GBP}}{\text{SGD}} (\text{A})$$

Computation as on 28.01.2013	Computation as on 04.02.2013
$\frac{\text{INR}}{\text{SGD}} (\text{A}) = 45.90 \times 1.7850 \times \frac{1}{3.1575} = \mathbf{₹ 25.9482 \text{ per SGD}}$	$\frac{\text{INR}}{\text{SGD}} (\text{A}) = 45.97 \times 1.7775 \times \frac{1}{3.1380} = \mathbf{₹ 26.0394 \text{ per SGD}}$

Total Loss to the Company = Difference in FOREX Rates + Additional Banker's Margin thereon

$$= [25,00,000 \times (26.0394 - 25.9482)] + 0.125\% \text{ thereon}$$

$$= 2,28,000 + 285$$

$$= \mathbf{₹ 2,28,285}$$

Question 6 (a): Bonds and related Computations**8 Marks**

GHI Ltd, AAA rated Company, has issued fully convertible bonds on the following terms, a year ago:

Face Value of Bond	₹ 1,000
Coupon (Interest Rate)	8.5%
Time to Maturity (remaining)	3 years
Interest Payment	Annual, at the end of year
Principal Repayment	At the end of bond maturity
Conversion Ratio (Number of Shares per Bond)	25
Current Market Price per Share	₹ 45
Market Price of Convertible Bond	₹ 1,175

AAA rated Company can issue Plain Vanilla Bonds without conversion option, at an interest rate of 9.5%.

Required: Calculate as of today:

- Straight Value of the Bond.
- Conversion Value of the Bond.
- Conversion Premium.
- Percentage of Downside Risk.
- Conversion Parity Price.

Given:

t	1	2	3
PVIF _{0.095,t}	0.9132	0.8340	0.7617

Solution:**Similar to Page 11.16, Q.No.22 [N 08]**

1. Straight Value of the Bond = Present Value of Future Cash Flows from a Bond discounted at 9.5%
= PV of Interest @ 8.5% on ₹ 1,000 for 3 years +
PV Terminal Inflow of ₹ 1,000 at the end of 3rd Year
Note: $0.9132 + 0.8340 + 0.7617 = 2.5099$ = $(1,000 \times 8.5\% \times 2.5099) + (1,000 \times 0.7617)$
= 974.95 = **₹ 975**

2. Conversion Value of the Bond = Value, if the Bond is converted into Shares
= Number of Shares on Conversion x Market Value per Share
= 25 Shares x ₹ 45
= **₹ 1,125**

3. Conversion Premium = Market Price of the Convertible Bond – Conversion Value
= ₹ 1,175 – ₹ 1,125
= **₹ 50**

4. Percentage of Downside Risk (Note) = $\frac{1175 - 975}{975} = \mathbf{20.51\%}$

5. Conversion Parity Price = $\frac{\text{Market Price of Convertible Bond}}{\text{No of Shares on Conversion}} = \frac{1175}{25} = \mathbf{₹ 47}$

Note: Downside Risk is the **maximum** risk that the Investor faces, if the Bond becomes valueless. This ratio gives the percentage price decline experienced by the Bond if the stock becomes worthless.

Question 6 (b): Consumer Finance – Flat Rate vs Effective Interest Rate**4 Marks**

GKL Ltd is considering installment sale of LCD TV as a sales promotion strategy.

In a deal of LCD TV, with selling price of ₹ 50,000, a customer can purchase it for cash down payment of ₹ 10,000 and balance amount by adopting any of the following options:

Tenure of Monthly Installments	Equated Monthly Installment
12	₹ 3,800
24	₹ 2,140

Required: Estimated the Flat and Effective Rate of Interest for each alternative.

PVIFA_{2.05%,12} = 10.5429 PVIFA_{2.10%,12} = 10.5107

PVIFA_{2.10%,24} = 18.7014 PVIFA_{2.12%,24} = 18.6593

Solution: Same as Page 4.7, Q.No.1

Question 6 (c): Project Report – Theory

4 Marks

Explain in brief the contents of a Project Report.

Solution: Same as Page 1.8, Q.No.13

Question 7: Theory – Various Topics

4 × 4 = 16 Marks

Write short notes on any four of the following:

Question	Answer Reference
(a) Traditional & Walter Approach to Dividend Policy	Page No. 10.4, Q.No.8, Page No. 10.5, Q.No.9
(b) Factors affecting Value of an Option	Page No. 15.3, Q.No.4
(c) Forward Rate Agreements	Page No. 16.1, Q.No.2
(d) American Depository Receipts	Page No. 17.18, Q.No.32
(e) Balancing Financial Goals vis-a-vis Sustainable Growth	Page No. 18.18, Q.No.40