

FINAL EXAMINATION

GROUP III (SYLLABUS 2008)

SUGGESTED ANSWERS TO QUESTIONS DECEMBER 2013

Paper – 12: FINANCIAL MANAGEMENT & INTERNATIONAL FINANCE

Time Allowed: 3 Hours

Full Marks: 100

The figures in the margin on the right side indicate full marks.

- Please:
- (i) Answer all bits of a question at one place.
 - (ii) Open a new page for answer to a new question.
 - (iii) Tick the question number answered on the front sheet of the answer-book.

Answer Question No. 1 from Part A which is compulsory and any five questions from Part B.

PART A (25 Marks)

1. a) In each, of the cases given below, one out of four answers is correct. Indicate the correct answer (= 1 mark) and give workings/reasons briefly in support of your answer (= 1 mark) 2x9=18
- i) Dividend-Payers Ltd. has a stable income and stable dividend policy. The average annual dividend payout is ₹ 27 per share (Face Value = ₹100). You are required to find out Dividend payout in year 2, if the company were to have an expected market price of ₹160 per share at the existing cost of equity.
[The market price in year 1 is ₹ 150]
(A) ₹28.88
(B) ₹ 26.86
(C) ₹ 28.80
(D) ₹ 26.98
 - ii) The ratio of current assets (₹ 3,00,000) to current liabilities (₹2,00,000) is 1.5 : 1. The accountant of this firm is interested in maintaining a current ratio of 2 : 1 by paying some part of current liabilities. Hence, the amount of current liabilities which must be paid for this purpose is
(A) ₹ 1,00,000
(B) ₹ 2,00,000
(C) ₹ 2,50,000
(D) ₹ 1,50,000
 - iii) The interest rate in Germany is 11 per cent and the expected inflation rate is 5 per cent. The British interest rate is 9 per cent. How much is the expected inflation rate in Britain?
(A) 3.0%
(B) 3.1%
(C) 4.5%
(D) 2.9%

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- iv) Annual usage of a firm is 3,60,000 units and 2 to 4 days are taken in receiving delivery of inventory after placing an order. Calculate Re-order level, if the reasonable expected stock out is 100 units per day. (Assume 1 year = 360 days)
- (A) 3000 units
(B) 3300 units
(C) 2500 units
(D) 3500 units
- v) A project had an equity beta of 1.2 and was going to be financed by a combination of 30% debt and 70% equity (assume debt beta = 0). Hence, the required rate of return of the project is (assume $R_f = 10\%$ and $R_m = 18\%$)
- (A) 16.27%
(B) 17.26%
(C) 16.72%
(D) 12.76%
- vi) M/s. Fine Dress Ltd. has sales of ₹800 lakhs and the variable costs amount to 62.5% of sales. The Company has fixed cost of ₹ 100 lakhs. If the sales of the Company increase by 5% from the existing level, what will be the per cent change in the EBIT?
- (A) 7.5%
(B) 8.7%
(C) 7.9%
(D) 10.9%
- vii) Consider the following quotes.
Spot (Euro/Pound) = 1.6543/1.6557
Spot (Pound/NZ\$) = 0.2786/0.2800
Calculate the % spread on the Euro/Pound Rate.
- (A) 0.085%
(B) 0.0085%
(C) 0.85%
(D) 0.00085%
- viii) A company has expected Net Operating Income - ₹ 2,40,000; 10% Debt - ₹7,20,000 and Equity Capitalisation rate - 20% what is the weighted average cost of capital for the company?
- (A) 0.15385
(B) 0.13585
(C) 0.18351
(D) 0.15531
- ix) The P/V ratio of a firm dealing in precision instruments is 50% and margin of safety is 40%. Calculate net profit, if the sales volume is ₹ 50,00,000.
- (A) ₹ 1,00,000
(B) ₹ 5,00,000
(C) ₹ 10,00,000
(D) ₹ 6,00,000

b) State if each of the following sentences is T (= true) or F (= false):

1x7=7

- i) Deterministic model of financial planning yield multiple — point estimate.
ii) Risk under transaction exposure can be minimized using Money Market Hedge.
iii) Flexibility is one among the performance indicators of the organisation.
iv) A project is a "One-shot" major undertaking.
v) Fund Managers use futures as a more economical way of achieving their portfolio goals.

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- vi) The profit or loss associated with converting foreign currency dominated assets/liabilities in reporting currency is called Economic Exposure.
- vii) TRIMs are the rules, a country applies to the domestic regulations to promote Foreign investment, often as a part of an Industrial Policy.

Answer:

1. a)

i) ₹28.80 (C)

$$K_e = 27/150 \times 100 = 18\%$$

$$K_e = \frac{DPS}{160} = 18\% \therefore DPS = 160 \times 18\% = ₹28.80$$

ii) ₹100000 (A)

$$\text{Current Ratio} = \frac{\text{Current Asset}}{\text{Current Liabilities}} = \frac{300000 - X}{200000 - X} = 2$$

$$\text{Or, } (300000 - X) = 2(200000 - X)$$

$$\text{Or, } 2X - X = 400000 - 3,00,000$$

$$\text{Or, } X = 1,00,000$$

iii) 3.1% (B)

If purchasing power parity holds, then the British inflations rate will be:

$$\frac{1.11}{1.09} = \frac{1.05}{1+i_B} \text{ Or } i_B = \frac{1.09 \times 1.05}{1.11} - 1 = 0.031 \text{ or } 3.1\%$$

iv) 3300 units (B)

$$\text{Safety Stock} = 100 \times 3 = 300 \text{ units}$$

$$\text{Re-order level} = (\text{Normal Daily Usage} \times \text{Normal Lead Time}) + \text{Safety Stock} \\ = (1000 \times 3) + 300 = 3300 \text{ units}$$

v) 16.72% (C)

$$\beta = \left(\beta_{\text{Equity}} \times \frac{E}{D+E} \right) + \left(\beta_{\text{Debt}} \times \frac{D}{D+E} \right)$$

$$= (1.2 \times 0.70) + (0 \times 0.30) = 0.84$$

$$\text{Required Rate of Return} = R_f + \beta(R_m - R_f) = 10\% + 0.84(18\% - 10\%) \\ = 10\% + 6.72\% = 16.72\%$$

vi) 7.5% (A)

$$DOL = \frac{\text{Contribution}}{EBIT} = \frac{\text{Sales} - \text{Variable Cost}}{\text{Sales} - \text{VC} - \text{Fixed Cost}} = \frac{800 - 0.625(800)}{800 - 0.625(800) - 100} = 1.5$$

Which is given by 1% increase in sales. Therefore, by 5% increase in sales, change in EBIT will be by $1.5 \times 5\% = 7.5\%$

vii) 0.085% (A)

$$\text{The \% spread on Euro/Pound} = \frac{1.6557 - 1.6543}{1.6543} \times 100 \\ = 0.085\%$$

viii) 0.15385 (A)

$$\text{Market value of equity (S)} = \frac{2,40,000 - 72000(I)}{0.20} = 840000$$

$$\text{Total value of firm (V)} = S + D = 840000 + 720000 = 1560000$$

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$$K_0 = \frac{NOI}{V} = \frac{240000}{1560000} = 0.15385$$

ix)	<u>₹10,00,000 (C)</u>		
	Margin of Safety	= 50,00,000@40%	= ₹2000000
	BEP Sales	= 50,00,000 – 20,00,000	= ₹30,00,000
	Fixed cost	= BEP (s) × p/v ratio	= 30,00,000@50% = 1500000
	Contribution	= 5000000 × 50/100	= ₹2500000
	Profit	= 25,00,000 – 15,00,000	= ₹10,00,000

b) True/False

- i) False
- ii) True
- iii) True
- iv) True
- v) True
- vi) False
- vii) True

PART B (75 Marks for any five questions)

2. a) A company is considering purchase of a new machinery which costs ₹8,00,000 and which has an estimated life of 10 years. This machine will generate additional sales of ₹ 4,00,000 per year, while increased cost of maintenance will be ₹ 1,00,000 per year. The cost of the machine is depreciated on a straight line and has no salvage value at the end of its 10 year life. The company has a cost of capital of 12 per cent and a corporate tax rate of 40 per cent.

You are required to calculate:

- (i) Annual Cash Flow
- (ii) Net Present Value (NPV)
- (iii) Payback period
- (iv) Internal Rate of Return. Should the Company purchase the new machine?

Note : The present value Factors are as follows:

	At the end of 10 years
Present value of annuity of Re.1@ 12%	5.651
Present value of annuity of Re. 1 @ 23%	3.799
Present value of annuity of Re. 1 @ 24%	3.682

2+2+2+3+1 = 10

3. Differentiate between the Capital Market Line and Security Market Line. 5

Answer:

a)

Particulars	₹
(i) Annual Cash Flow	
Sales	4,00,000
(-) Cost of maintenance	1,00,000

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	EBDT	3,00,000
(-) Depreciation (800000 ÷ 10)		80,000
	EBT	2,20,000
(-) Taxes		88,000
	EAT	1,32,000
(+) Depreciation		80,000
Annual cash flow		2,12,000
(ii) NPV:		
PV of cash inflow (212000 x 5.651)	=	1198012
PV of cash outflow	=	8,00,000
	NPV =	398012
(iii) Pay- back period		
PBP = $\frac{\text{original investment}}{\text{annual cash flow}}$		
= $\frac{800000}{212000} = 3.77 \text{ years}$		

(iv) Internal rate of return (IRR)

Fake payback period = 3.77 (lies between 23% and 24%)

PV of cash inflow @23% = 212000 x 3.799 = 805388

PV of cash inflow @24% = 212000 x 3.682 = 780584

$$\begin{aligned} \therefore \text{IRR} &= 23 + \frac{805388 - 800000}{805388 - 780584} (24 - 23) \\ &= 23 + \left[\frac{5388}{24804} \times 1 \right] = 23 + 0.22 = 23.22\% \end{aligned}$$

Since NPV is + ve, the co. should purchase the machine

b) CML stands for Capital Market Line, and SML stands for Security Market Line. The difference between CML and SML are as follows:

1. The CML is a line that is used to show the rates of return, which depends on risk-free rates of return and levels of risk for a specific portfolio. SML, which is also called a Characteristic Line, is a graphical representation of the market's risk and return at a given time.

2. While standard deviation is the measure of risk in CML, Beta coefficient determines the risk factors of the SML.

3. While the Capital Market Line graphs define efficient portfolios, the Security Market Line graphs define both efficient and non-efficient portfolios.

4. The Capital Market Line is considered to be superior when measuring the risk factors.

5. Where the market portfolio and risk free assets are determined by the CML, all security factors are determined by the SML.

3. a) A dealer, having annual sales of ₹ 50 lakhs, extends 30 days credit period to its debtors. The variable cost is estimated at 80% of sales and fixed costs are ₹6,00,000.

The dealer intends to change the credit policy for which the following information is given:

Credit Policy	Average Collection	Annual Sales
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	period (days)	(₹ in lakhs)
A	45	56
B	60	60
C	75	62

Rate of Return (Pre-tax) required on investment is 20% [Consider 365 days a year]

You are required to-

Assess the most profitable credit policy with the help of incremental approach.

[Calculations must be restricted to two decimal places].

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b) Describe Sensitivity Analysis as a technique of Risk Analysis in Capital Budgeting Decisions. 5

Answer:

a) Evaluation of proposed credit policies

	(₹ in lakhs)			
Credit policy	Present	A	B	C
Period (days)	30.00	45.00	60.00	75.00
Annual sales	50.00	56.00	60.00	62.00
Variable cost (80% of sales)	40.00	44.80	48.00	49.60
Fixed cost	6.00	6.00	6.00	6.00
Total cost	46.00	50.80	54.00	55.60
Profit (A.S – T.C)	4.00	5.20	6.00	6.40
Incremental profit (A)		1.20	2.00	2.40
Average investment in Debtors:				
46 x [30/365]	3.78			
50.8x [45/365]		6.26		
54x [60/365]			8.88	
55.6x [75/365]				11.42
Incremental investment in Debtors as compared to Present level:	-	2.48	5.10	7.64
Required return:				
20% incremental investment [B]	-	0.50	1.02	1.53
Excess return [A – B]	-	0.70	0.98	0.87

Policy B, having Average collection period 60 days, yields the maximum profit and thus is more profitable.

b) Sensitivity Analysis :

The NPV of a project is based upon the series of cash flows and the discount factor. Both these determinants depend upon so many variables such as sales revenue, input cost, competition, etc. Given the level of all these variables, there will be a series of cash flows and there will be NPV of the proposal. If any of these variables changes, the value of NPV will also change. It means that the value of NPV is sensitive to all these variables.

The Sensitivity of a capital budgeting proposal, in general, may be analysed with reference to

- (a) Level of revenues,
- (b) The expected growth rate in revenues,
- (c) The operating margin, and

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(d) The working capital requirements as a percentage of revenue, etc., with each such variable, the NPV and IRR of a proposal may be ascertained by keeping the other variable unchanged.

Sensitivity Analysis helps in identifying the different variables having effect on the NPV of a proposal. It helps in establishing the sensitivity or vulnerability of the proposal to a given variable and showing areas where additional analysis may be undertaken before a proposal is finally selected. The final decision on whether or not to take up the proposal will be based on regular budgeting analysis and the information generated by the sensitivity analysis. It is entirely possible that decision maker, when faced with the result from the Sensitivity Analysis, might decide to override a proposal originally approved by capital budgeting analysis. He may point that a small change in any one variable makes the proposal unaccepted.

4. a) From the following data, Using MM Approach, find out (i) the value of each firm and also (ii) Equity Capitalisation rate for each firm.

Particulars	Firm A	Firm B	Firm C
EBIT (₹)	12,00,000	12,00,000	12,00,000
No. of Equity Shares	3,00,000	2,50,000	2,00,000
10% debentures (₹)	-	9,00,000	10,00,000

Every firm expects 12% return on Investment.

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- b) From the following information, prepare the Balance Sheet.

Net Profit after Interest, Tax and Preference Dividend — ₹ 2,22,000

Tax Rate — 50%

18% Preference Share Capital — ?

15% Debentures—?

Return on Capital Employed — 50%

Return on Shareholder's funds — 60%

Return on Equity Shareholders' Funds — 74%

Current Ratio — 2:1

Net Fixed Assets ₹ 9,00,000.

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- c) What is Balance Score Card [BSC]? What are its perspectives?

5

Answer:

- a) Statement showing the computation of value of firm and equity capitalization rate

	A	B	C
Net operating income	12,00,000	12,00,000	12,00,000
(-) Interest	-	90,000	1,00,000
Earning for equity share holders (NI)	12,00,000	11,10,000	11,00,000
Total value of firm (EBIT/Ko)	<u>12,00,000</u>	<u>12,00,000</u>	<u>12,00,000</u>
	0.12	0.12	0.12
	=1,00,00,000	=1,00,00,000	=1,00,00,000
(-) Market value of Debt (D)	-	9,00,000	10,00,000

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Market value of Equity (S)	1,00,00,000	91,00,000	90,00,000
Equity capitalization rate (Ke = NI/S)	$\frac{12,00,000}{1,00,00,000}$	$\frac{11,10,000}{91,00,000}$	$\frac{11,00,000}{90,00,000}$
	0.12	0.12198	0.12222

b) Equity share holders funds = $\frac{2,22,000}{74} \times 100 = 3,00,000$

$$\begin{aligned} \text{Return on share holders funds} &= \frac{\text{EAT}}{\text{sh.funds}} \\ &= \frac{2,22,000 + 0.18x}{(3,00,000 + x)} = 0.6 \end{aligned}$$

Reference share capital (x) = 1,00,000

EAT = 2,22,000 + 0.18 (1,00,000) = ₹2,40,000

Tax = 50% of EBT or 100% on EAT = ₹2,40,000

EBT = EAT + TAX = 2,40,000 + 2,40,000 = ₹4,80,000

Let debentures be Y

Interest = 0.15y

EBIT = EBT + Int. on L.T. Debt

= 4,80,000 + 0.15Y

$$\text{Return on capital employed} = \frac{\text{EBIT}}{\text{Cap. employed}} \times 100$$

$$0.50 = \frac{4,80,000 + 0.15Y}{4,00,000 + Y}$$

15% debentures (Y) = ₹8,00,000

Capital employed = (3,00,000 + 1,00,000) + 8,00,000 = ₹12,00,000

Working capital = Cap. Employed - Net FA

= 12,00,000 - 9,00,000

= 3,00,000 or CA - CL = 3,00,000....(i)

Current ratio = $\frac{\text{CA}}{\text{CL}} = 2 : 1$

Or CA - 2 CL = 0....(ii)

(i) - (ii) CL = 3,00,000

CA = 3,00,000 x 2 = 6,00,000

Total assets = FA + CA = 9,00,000 + 6,00,000 = 15,00,000

EBIT = 4,80,000 + 15% of ₹8,00,000 = ₹6,00,000

Balance Sheet

Liabilities	₹	Assets	₹
EQ. Sh. Holders funds	3,00,000	Fixed assets	9,00,000
Preference share capital	1,00,000	Current assets	6,00,000
15% debentures	8,00,000		
Current liabilities	3,00,000		

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Total	15,00,000	15,00,000
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c) Balance Score card [BSC]:

The balanced scorecard is a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals. It was originated by Drs. Robert Kaplan (Harvard Business School) and David Norton as a performance measurement framework that added strategic non-financial performance measures to traditional financial metrics to give managers and executives a more 'balanced' view of organizational performance. While the phrase balanced scorecard was coined in the early 1990s, the roots of the this type of approach are deep, and include the pioneering work of General Electric on performance measurement reporting in the 1950's and the work of French process engineers (who created the *Tableau de Bord* – literally, a "dashboard" of performance measures) in the early part of the 20th century.

The balanced scorecard has evolved from its early use as a simple performance measurement framework to a full strategic planning and management system. The "new" balanced scorecard transforms an organization's strategic plan from an attractive but passive document into the "marching orders" for the organization on a daily basis. It provides a framework that not only provides performance measurements, but helps planners identify what should be done and measured. It enables executives to truly execute their strategies.

The balanced scorecard suggests that we view the organization from four perspectives, and to develop metrics, collect data and analyze it relative to each of these perspectives:

The Learning and growth perspective - This perspective includes employee training and corporate cultural attitudes related to both individual and corporate self-improvement. In the current climate of rapid technological change, it is becoming necessary for knowledge workers to be in a continuous learning mode.

The Business process perspective - This perspective refers to internal business processes. Metrics based on this perspective allow the managers to know how well their business is running, and whether its products and services conform to customer requirements (the mission).

The Customer perspective - Recent management philosophy has shown an increasing realization of the importance of customer focus and customer satisfaction in any business. These are leading indicators: if customers are not satisfied, they will eventually find other suppliers that will meet their needs. Poor performance from this perspective is thus a leading indicator of future decline, even though the current financial picture may look good.

The Financial perspective - Kaplan and Norton do not disregard the traditional need for financial data. Timely and accurate funding data will always be a priority, and managers will do whatever necessary to provide it. There is perhaps a need to include additional financial-related data, such as risk assessment and cost-benefit data, in this category.

5. a) The Fund Manager of United Industries which has two separate divisions A and B, wants to maintain optimum cash balance in both the divisions. He furnishes the following information for division A:

He projects that cash outlays of ₹ 45,00,000 will occur uniformly throughout the coming year. He plans to meet its cash requirements by periodically selling marketable securities from its portfolio. The firm's marketable securities are invested to earn 10% and the cost per transaction of converting securities to cash is ₹ 100.

You are asked to answer the following w. r. t. Division A:

- i) Use the Baumol model to determine the optimal transaction size of transfer from marketable securities

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to cash.

ii) What will be the company's average cash balance?

iii) How many transfers per year will be required?

iv) What will be the total annual cost of maintaining cash balance?

2+1+1+2= 6

b) Investors' Weekly, a news magazine on the happenings at Cloudy Street, publishes the following information in its November 2013 edition for Security D:

Equilibrium Return = 25%,

Market Portfolio Return = 25%,

8.4% Treasury Bills (₹ 100) at ₹ 120,

Covariance of the Security with Market Portfolio = 256%, and

Correlation Co-efficient = 0.85.

Determine the risk of Market Portfolio.

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c) Explain the Debt securitisation process.

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Answer :

a) i)

According to Baumol Model [Division A]

$$C = \sqrt{\frac{2bT}{I}}$$

Where, b = Fixed cost per transaction,

T = cash required,

I = Interest rate &

C = Convention size or Optimal transaction size.

$$C = \sqrt{\frac{2 \times 100 \times 45,00,000}{0.10}} = 94,868$$

ii) Average Cash balance = $(94,868 \div 2) = ₹47,434$

iii) No. of transfers = $₹45,00,000 / ₹94,865 = 47$ (appox.)

iv) Total annual cost of maintaining cash balance

$$= I \times (C \div 2) + b (T \div C)$$

$$= 0.10 \times 47,434 + 100 (47) = ₹9,443$$

b)

Computation of Beta of the Security:

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Computation of Risk Free Return

$$\begin{aligned}\text{Risk Free Rate} &= \text{Coupon Payment} \div \text{Current Market Price} \\ &= [\text{₹}100 \times 8.4\%] \div \text{₹}120 = \text{₹}8.4 \div \text{₹}120 = 7\%\end{aligned}$$

Computation of Beta

Assuming Equilibrium Return = CAPM Return,

$$25\% = R_f + \beta \times (R_M - R_f)$$

$$\text{Or, } 25\% = 7\% + \beta \times (25\% - 7\%)$$

$$\text{Or, } \beta = 1$$

Computation of Market Risk

$$\beta = \frac{\text{COV}_{DM}}{\sigma_M^2}$$

$$\text{Or, } 1 = 256\% \div \sigma_M^2$$

$$\text{Or, } \sigma_M = 16\% \text{ (market risk)}$$

c) Securitization Process:

Securitisation is the process by which financial assets such as loan receivables, mortgage backed receivables, credit card balances, and hire-purchase debtors, lease receivables, trade debtors etc. are transformed into securities.

Securitization is different from "factoring" since factoring involves transfer of debt without transformation thereof into securities.

Securitization is a process of pooling and repackaging homogeneous illiquid financial assets into marketable securities that can be sold to investors. Securitization is the process by which financial assets are transformed into securities.

Since through securitization, the illiquid financial assets or debtors are converted into securities, it can also be called as Debt or Asset Securitisation.

Steps involved in a Securitization Process:

The basic debt securitization process can be classified in the following three functions.

(i) The Origination Function: A borrower seeks a loan from a finance company, bank, housing company or a lease from a leasing company. The creditworthiness of the borrower is evaluated and a contract is entered into with repayment schedule structured over the life of the loan.

(ii) The Pooling Function: Similar loans or receivables are clubbed together to create an underlying pool of assets. This pool is transferred in favour of a SPV - (Special Purpose Vehicle), which acts as a trustee for the investor. Once the assets are transferred, they are held in the originators' portfolios.

(iii) The Securitization Function: It is the SPV's job now to structure and issue the securities on the basis of the asset pool.

6.

a) Find the direct cross quote of French Francs in India, given that

$$\text{₹/USD} = 44.04/44.08$$

$$\text{USD/AUD} = 18.05/18.08$$

$$\text{GBP/AUD} = 0.4119/0.4127$$

$$\text{GBP/FRF} = 0.0996/0.0999$$

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b) Following spot rates are available in the London Market

Currency	Buying rate	Selling rate
French Francs	10.24	10.30
Swedish Kroner	13.50	13.75
Japanese Yen	170	175

Since these currencies are in short supply, you are required to operate only through sterling, which is quoted at ₹ 75.25 - 75.35 in Mumbai. Compute the quantum of French Francs that you can buy for ₹ 1,20,000. 5

c) What are the benefits of Euro-Issues to Issuing Companies? 5

Answer:

a)

$$\frac{\text{₹}}{\text{FRF}} = \frac{\text{₹}}{\text{USD}} \times \frac{\text{USD}}{\text{AUD}} \times \frac{\text{AUD}}{\text{GBP}} \times \frac{\text{GBP}}{\text{FRF}}$$

$$\left(\frac{\text{₹}}{\text{FRF}}\right)_{\text{Bid}} = \left(\frac{\text{₹}}{\text{USD}}\right)_{\text{Bid}} \times \left(\frac{\text{USD}}{\text{AUD}}\right)_{\text{Bid}} \times \left(\frac{\text{AUD}}{\text{GBP}}\right)_{\text{Bid}} \times \left(\frac{\text{GBP}}{\text{FRF}}\right)_{\text{Bid}}$$

$$= \left(\frac{\text{₹}}{\text{USD}}\right)_{\text{Bid}} \times \left(\frac{\text{USD}}{\text{AUD}}\right)_{\text{Bid}} \times \left(\frac{1}{\frac{\text{GBP}}{\text{AUD}}}\right)_{\text{Ask}} \times \left(\frac{\text{GBP}}{\text{FRF}}\right)_{\text{Bid}}$$

$$= 44.04 \times 18.05 \times 2.4230 \times 0.0996 = ₹191.84$$

$$\left(\frac{\text{₹}}{\text{FRF}}\right)_{\text{Ask}} = \left(\frac{\text{₹}}{\text{USD}}\right)_{\text{Ask}} \times \left(\frac{\text{USD}}{\text{AUD}}\right)_{\text{Ask}} \times \left(\frac{1}{\frac{\text{GBP}}{\text{AUD}}}\right)_{\text{Bid}} \times \left(\frac{\text{GBP}}{\text{FRF}}\right)_{\text{Ask}}$$

$$= 44.08 \times 18.08 \times 2.4277 \times 0.0999 = ₹193.29$$

b) Given £ 1 = F 10.24/10.30 and ₹ 1 = ₹ 75.25 / 75.35

To find F/₹, we need only bid side of cross quote (₹/FF)

$$\text{We have } \text{Bid}\left(\frac{\text{FF}}{\text{₹}}\right) = \text{Bid}\left(\frac{\text{FF}}{\text{£}}\right) \times \text{Bid}\left(\frac{\text{£}}{\text{₹}}\right)$$

We do not have a quote of ₹ £/ ₹ Instead we have ₹/£

Hence we use

$$\text{Bid}\left(\frac{\text{£}}{\text{₹}}\right) = \frac{1}{\text{Ask}\left(\frac{\text{₹}}{\text{£}}\right)}$$

Substituting the values we get Bid Rate For F/₹

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$$= 10.24/75.35 = 0.1359$$

$$\text{Ask}\left(\frac{\text{FF}}{\text{₹}}\right) = \text{Ask}\left(\frac{\text{FF}}{\text{£}}\right) \times \frac{1}{\text{Bid}\left(\frac{\text{£}}{\text{₹}}\right)} = 10.30/75.25$$
$$= 0.1369$$

Quote as F/₹ = 0.1359/0.1369

By selling ₹1,20,000 we get = F 1,20,000 x 0.1359
= F 16308

c) Benefit of Euro – Issues to issuing companies

- It can absorb issues of larger size
- Better corporate image of issuing company both in India and abroad among bankers, Customers.
- Proceeds can be used for import and acquisition abroad
- It will broaden the share holders base and enhance investors quality
- It normally offers better comparative share value

7.

a) AU Ltd., an Indian Company has an export exposure of 120 lakhs Yen value December end.

The current spot rates are:

\$ / ₹ = 64.5 and

\$/¥ = 120.25

It is estimated that Yen (¥) will depreciate against dollar to 140 and Rupee will depreciate against dollar to 70. Forward rate for December, 2013:

\$/¥ = 128.50 and

\$/₹ = 66.50

(i) You are required to calculate the expected loss, if hedging is not done.

(ii) How the position will change with company taking a forward cover.

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b) JUPITER, a 100% Export oriented company based at Chennai, exports leather jackets to various European countries. All exports are invoiced in Euro. At the end of October, 2013, JUPITER has sent a consignment to an import house based at Frankfurt. The receivable is likely to be realised at the end of January 2014. JUPITER approaches its banker to sell these Euro earnings. The banker has the following information:

₹/\$spot	43.50/60
2 - m forward	25 / 30
3 - m forward	40 / 50
Euro / \$ spot	1,0420 / 1,0430
2 - m forward	1,0400 / 1,0415
3-mforward	1,0380/1,0400

You are required to calculate the Rupee Inflow for JUPITER in January, 2014, if the expected EURO of one million is sold to the banker forward.

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c) Explain the features of interest rate SWAP.

5

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Answer:

a)

i) Calculation of Current spot rate of ¥/₹

$$\text{₹/\$} = 64.50$$

$$\text{¥/\$} = 120.25$$

$$\text{¥/₹} = 120.25 \times 1/64.5$$

$$\text{¥/₹} = 1.8643$$

Calculation of expected rate of ¥/₹

$$\text{¥/\$} = 140$$

$$\text{₹/\$} = 70$$

$$\text{¥/₹} = 140/70 = 2.0000$$

∴ Calculation of Expected loss without forward cover

$$\text{Current exposure} = 120 \text{ lakhs} / 1.8643 = 64,36,800$$

$$\text{Expected exposure} = 120 \text{ lakhs} / 2.0000 = 60,00,000$$

$$\text{Expected loss without forward cover} = 4,36,800$$

ii) Computation of Forward rate ¥/₹

$$\text{¥/\$} = 128.50$$

$$\text{₹/\$} = 66.50$$

$$\therefore \text{¥/₹} = 128.50/66.50 = 1.9323$$

$$\text{Current exposure} = 120 \text{ lakhs} / 1.8643 = 64,36,800$$

$$\text{Exposure, if forward cover is taken} = 120 \text{ lakhs} / 1.9323 = 62,10,000$$

$$\text{Expected loss if forward cover is not taken} = 2,26,8000$$

Suggested to take forward cover.

b) We are given ₹/\$ and Euro /\$ rates. We have to calculate the ₹/Euro bid as Jupiter would sell at Bid rates. Moreover, we are interested in calculating only the 3 - month forward rates i.e., January rate only, because the Euro's are due only in January.

$$\text{Bid [₹/ Euro]} = \text{Bid [₹/ \$]} \times \text{Bid [\$/Euro]}$$

$$\text{3 month forward} = \text{Bid [₹/ Euro]} = 43.90 \times [1/ (\text{Ask \{Euro/\$}\})]$$

$$= 43.90 \times [1/1.0400] = 42.21$$

Hence, the Bank will buy Euro @ 42.21.

Therefore Rupees realized by Jupiter will be 42.21 x 1 million = ₹ 42.21 million.

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c)

An interest rate swap is a contractual agreement entered into between two counterparties under which each agrees to make periodic payment to the other for an agreed period of time based upon a notional amount of principal. The principal amount is notional because there is no need to exchange actual amounts of principal in a single currency transaction: there is no foreign exchange component to be taken account of. Equally, however, a notional amount of principal is required in order to compute the actual cash amounts that will be periodically exchanged.

Under the commonest form of interest rate swap, a series of payments calculated by applying a fixed rate of interest to a notional principal amount is exchanged for a stream of payments similarly calculated but using a floating rate of interest. This is a fixed-for-floating interest rate swap. Alternatively, both series of cashflows to be exchanged could be calculated using floating rates of interest but floating rates that are based upon different underlying indices. Examples might be Libor and commercial paper or Treasury bills and Libor and this form of interest rate swap is known as a basis or money market swap.

The "swap rate" is the fixed interest rate that the receiver demands in exchange for the uncertainty of having to pay the short-term LIBOR (floating) rate over time. At any given time, the market's forecast of what LIBOR will be in the future is reflected in the forward LIBOR curve.

At the time of the swap agreement, the total value of the swap's fixed rate flows will be equal to the value of expected floating rate payments implied by the forward LIBOR curve.

Features:

- (i) No exchange of Principal: Principal amounts are not usually exchanged in an interest rate swap arrangement.
- (ii) Transformation of loan/investment: Interest Rate Swap transforms a floating-rate loan into a fixed-rate loan, and vice-versa. It can also be used to transform a floating-rate investment to a fixed-rate investment, or vice versa.
- (iii) Credit risk: Interest Rate Swaps suffers from credit risk, to the extent of interest payments. However, there is no risk on the principal amounts, since principals are not exchanged.

8. Write short notes on (any three):

5x3=15

- (a) Interest Rate Guarantees (IRG) w. r. t. International Finance;
- (b) Zero working capital concept;
- (c) Greenfield Privatisation;
- (d) Measures of Financial Performance.

Answer:

a) Interest Rate Guarantees (IRG):

Interest Rate guarantees are true options in that they hedge the company against adverse interest rate movements, but allow it to take advantage of favorable movements. In taking a decision on whether to use IRG or otherwise, cost in respect of other alternatives, such as

Futures Contracts, is also taken into account, and the most favorable alternative, which leads to the lowest cost, is chosen.

Our firm will have \$1,000,000 in 3 months' time, for a 6-month period. Nobody is sure what interest rates will prevail in the future. Some analysts think rates will increase, others feel they will fall. To protect the firm against the risk of reduced return on funds. We can use the

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Forward-Rate Agreements to protect the firm, but we know that if we use Forward-Rate Agreements now we will give up the possibility of benefiting from higher interest rates. In these circumstances, interest-rate guarantee products can be very useful. An Interest-Rate Guarantee is a product, which can be very useful in these circumstances. Basically, it is an option on a Forward-Rate Agreement. It allows us a period of time during which the firm have the right to buy a Forward-Rate Agreement at a set price. The guarantee protects us against a fall in interest rates while giving us the freedom to enjoy a better return if rates increase. If firm want this guarantee the firm will need to pay a higher premium. The price of Interest-Rate Guarantee will depend on

- The guaranteed rate;
- How long firm want the Option for; and
- How often interest rates are changing.

Interest rate Guarantee hedges the interest rate for a single period of up to one year. Guarantee commission paid to the guarantor is comparable to option premium.

b) Zero working capital

Working capital is the comparison of current assets to current liabilities. For most organizations, current assets exceed current liabilities and working capital therefore represents the liquid reserves for meeting current obligations. Creditors prefer high levels of working capital since they are concerned about receiving payment. However, management prefers low levels of working capital since working capital earns an extremely low rate of return. Some companies are now driving working capital to record low levels, so-called Zero Working Capital. By keeping working capital at zero, funds are released for many other opportunities.

Zero Working Capital requires major changes in how an organization functions. One way to implement Zero Working Capital is to have a demand-based organization. Demand-based organizations do everything only as they are demanded: Fill customer orders, receive supplies, manufacture products, and other functions are done only as needed. The production facilities run 24 hours a day non-stop according to the demands within the marketplace. There are no inventories; everything is supplied immediately as needed. The end result of this demand driven organization is that little, if any, working capital is necessary to run the business.

Companies like GE (General Electric) and Campbell Soup have made Zero Working Capital a major strategic objective for the organization. As more and more businesses find faster ways of servicing customers, the concept of Zero Working Capital will become more main stream.

c) Greenfield Privatization

- Under new economic policy 1991, concept of privatization of PSEs to improve its efficiency and to reduce the budgetary support and involvement of stage in PSEs
- Releasing large amount of public resources locked up in non-strategic PSEs.
- Stopping further outflow of resources for sustaining unviable PSEs.
- Reducing burgeoning public debt.
- Transferring commercial risk to private sector.
- Disinvested companies would be exposed no market discipline and they would become more efficient and survive or will cease on their own.
- Disinvestment would have a beneficial effect on the capital market.

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- New private investor will put in more money in privatized PSEs and economic activity will increase.
- Consumers will be benefited as they would have more choices and cheaper and better quality products and services.

d) Measures of Financial Performance.

There are many different ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt.

Some important measures of financial performance is –

- Profitability
- Liquidity
- Capital structure
- Market rating etc.