FINAL EXAMINATION

GROUP III

(SYLLABUS 2008)

SUGGESTED ANSWERS TO QUESTIONS

JUNE 2015

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 parts 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

All workings must form part of your answer.
Assumptions, if any, must be clearly stated.

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): 2×8=16

(i) Return on Equity (ROE) is computed as

(A) (NP Ratio × Assets Turnover Ratio) ÷ Equity Multiplier

(B) (NP Ratio x Assets Turnover Ratio) × Equity Multiplier

(C) (NP Ratio x Equity Multiplier) + Assets Turnover Ratio

(D) (NP Ratio + Assets Turnover Ratio) + Equity Multiplier

(ii) The ratio of Current Assets (₹9,00,000) to Current liabilities (₹6,00,000) 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) ₹ 3,00,000

(B) ₹ 2,00,000

(C) ₹ 6,00,000

(D) ₹ 4,00,000

(iii) Annual usage of a firm is 7,30,000 units and 3 to 5 days are taken in receiving delivery of inventory after placing an order. Calculate Re-order Level, if the reasonable expected stock out is 500 units per day. (Assume 1 year = 365 days)

(A) 10,000 units

(B) 8,000 units

(C) 80,000 units

(D) 1,00,000 units

(iv) EXCEL Ltd. projects that cash outlays of ₹ 37,50,000 will occur uniformly throughout the coming year. Excel plans to meet its cash requirements by periodically selling marketable securities from its portfolio. The firm's marketable securities are invested to earn 12% and the cost per transaction of converting securities to cash is ₹ 40.

According to Baumol, what is the optimal transaction size of marketable securities to cash?

(A) ₹ 25,000

(B) ₹ 30,000

(C) ₹ 50,000

(D) ₹ 35,000

(v) Presently, the company's share price is ₹ 120. After 6 months, the price will be either ₹150 with a probability of 0.8 or ₹ 110 with a probability of 0.2. A European call option exists with an exercise price of ₹ 130. What will be the expected value of call option at maturity date?

(A) ₹ 20

(B) ₹ 16

(C) ₹ 18

(D) ₹10

(vi) Consider the following quotes:

Spot (Euro/Pound) = 1.3904 — 1.3908

Spot (Pound/NZ $) = 0.5020 — 0.5040

What will be the possible % spread on the cross rate between Euro and NZ $?

(A) 0.40

(B) 0.39

(C) 0.41

(D) 0.43

(vii) A project had an equity beta of 1.4 and was going to be financed by a conbination of 25% Debt and 75% Equity (Assume Debt Beta as zero).

Hence, the required rate of return of the project is

(A) 16.72%

(B) 18.30%

(C) 17.45

(D) 12.00

(Assume R_f, = 12% and R_m = 18%).

(viii) Given for a project:

Annual Cash inflow ₹80,000

Useful life 4 years

Pay-Back period 2.855 years

What is the cost of the project?

(A) ₹ 2,28,500

(B) ₹ 2,28,400

(C) ₹ 2,28,600

(D) ₹ 2,28,700

(b) State if each of the following sentences are T (= true) or F (= false): 1×9=9

(i) A firm adopts financial contingency planning in situations of prosperity.

(ii) Cost of Retained Earnings

= (Cost of Equity) x (1-Rate of Tax) x (1-Cost of purchasing new securities or brokerage cost)

(iii) Securitisation is the conversion of non-tradable assets into marketable securities.

(iv) Under favourable conditions, Financial Leverage decreases EPS.

(v) Sensitivity analysis refers to studying the relationship between risks and return.

(vi) Preferred stock, a hybrid corporate security, pays a variable dividend depending on the corporation's earnings.

(vii) External Commercial Borrowing (ECB) is the amount borrowed by the Government through designated agents from All India Financial Institutions (AIFIs).

(viii) European Option can be exercised any time during option period.

(ix) FPA policy is a minimum liability insurance and gives only a partial cover for losses.

Answer:

1. (a)

(i) (B) ROE = [NP/Sales] × [Assets/Equity] × [Sales / Total assets]

= NP Ratio × Equity Multiplier × Assets Turnover Ratio.

(ii) (A) Let the amount of current liabilities paid be "x"

Thus, Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{(9,00,000 - x)}{(6,00,000 - x)} = 2$

9,00,000 – x = 12,00,000 – 2x

or, 2x – x = 12,00,000 – 9,00,000 = 3,00,000

(iii) (A) Safety stock = 500 units × 4 = 2,000 units

Reorder level = [Normal Daily Usage × Normal lead time] + Safety stock

= [(7,30,000/365) × (3+5)/2] + 2,000 = (2,000 × 4) + 2,000 = 10,000 units.

(iv) (C) According to Baumol model,

Optimal size = "2TA/ I = "(2×40×37,50,000)/0.12 = 50,000

(v) (B) Expected value of call option

Expected share price (₹)	Exercise price (₹)	Call value (₹)	Probability	Call option value (₹)
150	130	20	0.8	16
110	130	0	0.2	0
				16

(vi) (D) The % spread on Cross rate between the Euro and NZ $. Let us find out the Cross rate first.

SPOT (Euro / NZ $) = (0.5020 × 1.3904) : (0.5040 × 1.3908) = 0.6980 : 0.7010

So, % Spread on Euro to NZ $ = [(0.7010 – 0.6980) / 0.6980] × 100 = 0.4298 = 0.43.

(vii) (B) We know, B_P = [β EQUITY × {E / (D+E)}] + [β DEBT × {D / (D + E)}]

= (1.4 × 0.75) + (0 × 0.25) = 1.05;

Rate of return of the Project = $R_P = R_F + B_p (R_M – R_F)$ = 12% + 1.05 (18% – 12%)

= 12% + 6.30% = 18.30%

(viii) (B) Pay-back period = Cost of project / Annual cash inflow

So, Cost of project = Annual cash inflow × Pay-back period = 80,000 × 2.855 = ₹2,28,400

Answer:

1. (b)

(i) False.

(ii) True.

(iii) True.

(iv) False.

(v) True.

(vi) False.

(vii) True.

(viii) False.

(ix) True.

PART B (75 Marks)
Answer any five questions

2. (a) RAVINDRA Ltd. has the following Capital Structure as per its Balance Sheet as at 31st March, 2015.

		₹ in lakhs
Equity Share Capital (fully paid shares of ₹ 10 each)		4.00
18% Preference Share Capital (fully paid shares of ₹ 100 each)		3.00
Retained Earnings		1.00
12.5% Debentures (fully paid debentures of ₹ 100 each)		8.00
12% Term Loan		4.00
	Total	20.00

Additional information:

(i) The Current market price of the Company's share is ₹64.25. The prevailing default-risk free interest rate on 10 - year GOI Treasury Bonds is 5.5%. The average market risk premium is 8%. The beta of the company is 1.1875.

(ii) The preference shares of the Company which are redeemable after 10 years are currently selling at ₹ 90 per preference share.

(iii) The Debentures of the Company which are redeemable after 5 years are currently quoted at ₹ 95 per debenture.

(iv) The Corporate tax rate is 30%.

Calculate Weighted Average Cost of Capital (WACC), using
(a) Book Value Weights and
(b) Market Value Weights. **8+2=10**

(b) Describe Commercial Paper as a source of financing. **5**

Answer:

2. (a)

Statement showing Weighted Average Cost of Capital (Using Book Value Weights)

Source of capital A	Amount of each source of capital (₹ in lakhs) B	Proportion of each source of capital C	After Tax Cost of each source of capital D	Product E = C × D
Equity share capital	4	0.20	0.1500	0.0300
Retained Earnings	1	0.05	0.1500	0.0075
18 % Preference				
share capital	3	0.15	0.2000	0.0300
12.5 % Debentures	8	0.40	0.1000	0.0400
12 % Term loan	4	0.20	0.0840	0.0168
Total	20	1.00		0.1243

Weighted average cost of capital = 0.1243 or, 12. 43%

Statement showing Weighted Average Cost of Capital [Using Market value weights]

Source of capital A	Amount of each source of capital (₹ in lakhs) B	Proportion of each source of capital C	After Tax Cost of each source of capital D	Product E = C × D
Equity share capital	4 x 6.425 = 25.7	0.6425	0.1500	0.0964
18 % Preference share capital	3.0-0.3 = 2.7	0.0675	0.2000	0.0135
12.5 % Debentures	8.0-0.4 = 7.6	0.1900	0.1000	0.0190
12% Term loan	4.0	0.1000	0.0840	0.0084
	40.0	1.0000		0.1373

Weighted average cost of capital = 0.1373 or, 13.73%

Note: Retained Earnings are not shown separately in Market Value Weights since the market value of equity shares represents combined market value of equity shares and retained earnings.

Working notes:

(i) Cost of Equity (K_e) = R_F + β (Average market risk premium) = 5.5 % + 1.1875 x (8%)=15%

(ii) Cost of retained earnings (Kr) = K_E = 15%

(iii) Cost of 18% Preference Share Capital (K_P)
= [Preference Dividend + (Redeemable value - Net sale proceeds)/N] /[(Redeemable value + Net sale proceeds)/2] = [18 + (100 - 90)/10]/[(100 + 90)/2] = 0.20 OR, 20%.

(iv) Cost of 12.5% Debentures = [Interest (1-Tax rate) + (Redeemable value-Net sale proceeds)/N] / [(Redeemable value + Net sale proceeds)/2]
= [12.5 (1 – 0.3) + (100 – 95) / 5] / (100 + 95) /2] = 0.10 or, 10%.

(v) Cost of 12% Term loan = Interest (1-Tax rate) / Net sale proceeds = 48,000 (1 – 0.30) / 4,00,000 = 0.084 or, 8.4%.

2. (b)

Commercial Paper (CP) is an unsecured promissory note issued by a firm to raise funds for a short period, generally, varying from a few days to a few months.
It is a money market instrument and generally purchased by commercial banks, money market mutual funds and other financial institutions desirous to invest their funds for a short period. As the CP is unsecured, the firms having good credit rating can only issue the CP. The firm or the dealers in CP sell these to the short-term lenders who use it as interest earning investment of temporary surplus of operating funds. The nature of these surpluses and motives for buying the CP suggest that all the holders of the Cp expect to be paid in full at maturity. The maturity term of CP is not generally extended. This expectation on the part of short term tenders requires that the borrowing firm must be (i) an established and profitable firm, and (ii) consistently maintaining a credit goodwill in the market and having good credit rating. The interest cost of the CP depends upon the amount involved, maturity period and

the prime lending rates of commercial banks. The main advantage of CP is that the cost involved is lower than the prime lending rates. In addition to this cost, the borrowing firm has to bear another cost in the form of placement fees payable to the dealer of CP who arranges the sale.

OR

C.P as source of Financing: From the point of the issuing company, CP provides the following benefits:

(i) CP is sold on an unsecured basis and does not contain any restrictive conditions.

(ii) Maturing CP can be repaid by selling new CP and thus can provide a continuous source of funds.

(iii) Maturity of CP can be tailored to suit the requirement of the issuing firm.

(iv) CP can be issued as a source of fund even when money market is tight.

(v) Generally the cost of CP to the issuing firm is lower than the cost of commercial bank loans.

However, CP as a source of financing has its own limitations:

(a) Only highly credit rated firms can issue it. New and moderately rated firms generally are not in a position to issue CP.

(b) CP can neither be redeemed before maturity nor can be extended beyond maturity.

So, CP is advantageous both to the issuer as well as to the investor. The issuer can raise short-term funds at lower costs and the investors as a short term outlet of funds. CP provides liquidity as they can be transferred. However, the issuer must adhere to the RBI guidelines.

3. (a) ABS RELAXON LTD. provides a simplified Income Statement as given below:

Income Statement of ABS RELAXON LTD. for the year ended 31.3.2015.

	₹	₹
Sales		**10,50,00**
Less:		
Variable Cost	**7,67,000**	
Fixed Cost	**75,000**	**8,42,000**
EBIT		**2,08,000**
Less: Interest		**1,10,000**
EBT		**98,000**
Less: Taxes @ 30%		**29,400**
Net Income		**68,600**

Calculate:

(i) Operating Leverage

(ii) Financial Leverage and

(iii) Combined Leverage

Interpret company's Combined Leverage. **(1+1+1)+2=5**

3. (b) The Balance Sheets of OMEGA LTD. as on 31st March, 2014 and 2015 are given below:

	31.03.2014	31.03.2015		31.03,2014	31.03.2015
Liabilities	**₹**	**₹**	**Assets**	**₹**	**₹**
Share Capital	1,50,000	2,50,000	Fixed Assets:		
Equity			Goodwill	60,000	47,000
8% Redeemable Preference	1,50,000	1,00,000	Land & Buildings	1,00,000	75,000
Reserves & Surplus:					
General Reserve	20,000	30,000	Plant & Machinery	90,000	1,91,000
Capital Reserve	–	25,000	Trade Investment (in shares)	10,000	35,000
Profit & Loss Account	18,000	27,000			
Current Liabilities and Provisions:			*Current Assets, Loans and Advances:*		
Sundry Creditors	26,000	53,000	Stock	85,000	78,000
Bills Payable	18,000	12,000	Sundry Debtors	60,000	90,000
Prov. for Taxation	28,000	32,000	Bills Receivable	15,000	18,000
Proposed Dividend	27,000	33,000	Cash at Bank	10,000	26,000
Dividend Payable	–	4,000	Cash in hand	7,000	6,000
	4,37,000	5,66,000		4,37,000	5,66,000

Additional particulars are given below:

(i) In 2014-15, ₹18,000 depreciation has been written off Plant & Machinery and no depreciation has been charged on Land and Buildings.

(ii) A piece of Land has been sold out and the balance has been revalued, profit on such sale and revaluation being transferred to Capital Reserve. There is no other entry in Capital Reserve Account.

(iii) A plant was sold for ₹ 12,000 (WDV being ₹ 15,000).

(iv) Dividend received amounted to ₹ 2,100 which included pre-acquisition dividend of ₹ 600.

(v) An interim dividend of ₹ 10,000 has been paid in the year 2014-15.

Prepare Cash Flow Statement. 10

Answer:

3. (a)

Operating leverage = Contribution / [Earnings before Interest and Tax]

Contribution = Sales – Variable cost = 10,50,000 – 7,67,000 = ₹2,83,000

So, Operating leverage = 2,83,000/2,08,000 = 1.36.

Financial leverage = [Earnings before Interest and Tax]/ Earnings before tax

Earnings before tax = EBIT – INTEREST = 2,08,000 – 1,10,000 = ₹98,000

So, Financial leverage = 2,08,000/98,000 = 2.12

Combined leverage = Operating leverage x Financial leverage = 1.36 x 2.12 = 2.88.

Interpretation: Combined leverage of 2.88 indicates that 1% change in sales is likely to result in 2.88 % change in net income of the company.

Answer:

3. (b)

Cash Flow Statement for the year ending 31.03.2015

Particulars		₹	₹
I. Cash flows from Operating activities:			
A.	Closing Balance as per Profit & Loss Account		27,000
	Less: Opening Balance as per Profit & Loss account		(18,000)
	Add: Proposed Dividend during the year		33,000
	Add: Interim Dividend during the year		10,000
	Add: Transfer to Reserve [30,000 - 20,000]		10,000
	Add: Provision for Tax		32,000
B.	Net profit before Taxation & extra-ordinary items		94,000
C.	Add: Items to be added:		
	Depreciation on Pt & M/c	18,000	
	Loss on sale of Plant [15,000 - 12,000]	3,000	
	Goodwill written off [60,000 - 47,000]	13,000	34,000
D.	Less: Items to be deducted		
	Dividend income [2,100 - 600]		(1,500)
E.	Operating Profit before Working Capital changes [B+C-D]		1,26,500
F.	Add: Decrease in current assets & increase in current liabilities		–
	Decrease in Stock-in-trade [85,000 - 78,000]	7,000	
	Increase in Sundry Creditors [53,000 - 26,000]	27,000	34,000
G.	Less: Increase in Current Assets and-Decrease in Current Liabilities		
	Increase in Bills Receivables [18,000 - 15,000]	(3,000)	
	Decrease in Bills Payables [18,000 - 12, 000]	(6,000)	
	Increase in Sundry Debtors (Gross)[90,000 - 60,000]	(30,000)	(39,000)
H.	Cash generated from operations [E + F -G]		1,21,500
I.	Less: Income Taxes paid		(28,000)
J.	NET CASH from Operating Activities		93,500
II.	**CASH Flow from Investing Activities**		
	Purchase of Plant		(1,34,000)
	Sale of Land		50,000
	Sale of Plant		12,000
	Purchase of Investments		(25,600)
	Dividend received		2,100
	Net Cash used in investing activities		(95,500)
III.	**Cash Flows from Financing Activities**		
	Proceeds from Issuance of Share Capital		1,00,000
	[2,50,000 – 1,50,000]		
	Redemption of Preference shares [1,50,000 – 1,00,000]		(50,000)
	Interim Dividend paid		(10,0.00)
	Final Dividend paid [27,000 – 4,000]		(23,000)
	NET CASH from Financing Activities		17,000
IV.	**NET INCREASE in Cash & Cash Equivalents [I+II+III]**		15,000
V.	**CASH & CASH Equivalents at the beginning of period**		

	Cash in hand	7,000	
	Cash at Bank	10,000	17,000
VI.	**CASH & CASH Equivalents at the end of period [IV+V]**		
	Cash in hand	6,000	
	Cash at Bank	26,000	32,000

Working notes:

(i) Land & Building A/c

Dr. **Cr.**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Balance b/d	1,00,000	By Bank A/c	50,000
To Capital Reserve A/c (Profit on Sale & revaluation)	25,000	By Balance c/d	75,000
	1,25,000		1,25,000

(ii) Plant & M/c A/c

Dr. **Cr.**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Balance b/d	90,000	By Depreciation A/c	18,000
To Bank A/c (Purchase)	1,34,000	By Bank A/c (Sales)	12,000
		By Profit & loss a/c (Loss on sale)	3,000
		By Balance c/d	1,91,000
	2,24,000		2,24,000

(iii) Investment A/c

Dr. **Cr.**

Particulars	Amt (₹)	Particulars	Amt (₹)
To Balance b/d	10,000	By Bank (Dividend received)	600
To Bank a/c (Purchase)	25,600	By Balance c/d	35,000
	35,600		35,600

(iv) It has been assumed that the proposed Dividend includes Preference Dividend also.

4. (a) Modern Enterprises Ltd. wants to replace its old machine with a new automatic machine. Two models AMM_1 and AMM_2 are available at the same cost of ₹ 8,00,000 each.

Salvage value of old machine is ₹1,60,000. The utilities of the existing machine can be used, if the company purchases AMM_1. Additional cost of utilities to be purchased in that case is ₹ 1,60,000.

If the company purchases AMM_2, then all the existing utilities will have to be replaced with new utilities costing ₹ 3,20,000. The salvage value of the old utilities will be ₹ 32,000.

The Earnings after taxation are expected to be:

Year	Cash Inflow		PV factor at 15%
	AMM_1 ₹	AMM_2 ₹	

1	1,60,000	3,20,000	0.87
2	2,40,000	3,36,000	0.76
3	2,88,000	2,88,000	0.66
4	3,20,000	2,72,000	0.57
5	2,72,000	64,000	0.50

Salvage value at end of

Fifth Year 80,000 96,000

The target return on Capital is 15%.

Required: Calculate for each model of Automatic Machine—

(i) Net Present Value,

(ii) Discounted Pay-back Period, and

(iii) Profitability Index.

Advise which of the Automatic Machines should be selected. 3+4+2+1=10

(b) A manager is trying to decide which of three mutually exclusive projects to undertake. Each of the projects could lead to varying net profits which are classified as outcomes I, II and III. The manager has constructed the following pay-off table or matrix (a conditional profit table).

Outcome-wise Net profits for projects A, B and C are as follows:

Project	I	II	III
A	50,000	65,000	80,000
B	70,000	60,000	75,000
C	90,000	80,000	55,000
Probability	0.2	0.6	0.2

Which project should be undertaken? 5

Answer:

4. (a)

Statement showing the calculation Net Present Value:

Particulars	Year	P.V factor at 15%	AMM_1		AMM_2	
			Amount (₹)	PV (₹)	Amount (₹)	PV (₹)
Purchase price	0	1	(8,00,000)	(8,00,000)	(8,00,000)	(8,00,000)
Cost of Utilities	0	1	(1,60,000)	(1,60,000)	(3,20,000)	(3,20,000)
Salvage value of Old Machine	0	1	1,60,000	1,60,000	1,60,000	1,60,000
Salvage value of Old Utilities	0	1	-	-	32,000	32,000
CFAT for 1 year	1	0.87	1,60,000	1,39,200	3,20,000	2,78,400
CFAT for 2 year	2	0.76	2,40,000	1,82,400	3,36,000	2,55,360
CFAT for 3 year	3	0.66	2,88,000	1,90,080	2,88,000	1,90,080
CFAT for 4 year	4	0.57	3,20,000	1,82,400	2,72,000	1,55,040
CFAT for 5 year	5	0.50	2,72,000	1,36,000	64,000	32,000
Salvage value of						

New Machine	5	0.50	80,000	40,000	96,000	48,000
NPV				70,080		30,880

(ii) Statement showing Discounted Pay-back Period

Year	AMM_1		AMM_2	
	Discounted cash flow (₹)	Cumulative DCF (₹)	Discounted cash flow (₹)	Cumulative DCF (₹)
0	(8,00,000)		(9,28,000)	
1	1,39,200	1,39,200	2,78,400	2,78,400
2	1,82,400	3,21,600	2,55,360	5,33,760
3	1,90,080	5,11680	1,90,080	7,23,840
4	1,82,400	6,94,080	1,55,040	8,78,880
5	1,36,000 + 40,000	8,70,080	32,000 + 48,000	9,58,880

Discounted Pay-back Period for AMM_1 = 4 Year + (8,00,000 - 6,94,080) / 1,76,000
= 4.602

Year Discounted Pay-back Period for AMM_2 = 4 Year + (9,28,000 - 8,78,880) / 80,000
= 4.614 Year

Profitability Index = Total PV of CFAT / Initial cash out flow

P.I for AMM_1 = 8,70,080 / 8,00,000 = 1.0876

P.I for AMM_2 = 9,58,880/9,28,000 =1.0333

Machine AMM_1 SHOULD BE SELECTED. Since NPV and Profitability Index are higher than those of AMM_2.

Answer:

4. (b)

If the Project with highest EV of profit were chosen, this would be Project C.

Outcome	**Probability**	**Project A**	**Project B**	**Project C**
		EV (₹)	EV (₹)	EV (₹)
I	0.2	10,000	14,000	18,000
II	0.6	39,000	36,000	48,000
III	0.2	16,000	15,000	11,000
	1.00	65,000	65,000	77,000

However, if the maximum criterion were applied, the assessment would be as follows:

Project selected	Worst outcome that could happen	Profit (₹)
A	I	50,000
B	II	60,000
C	III	55,000

Analysis: By choosing B, we are guaranteed a profit of at least ₹60,000, which is more than what we get from Project A or C if worst outcome were to occur for them. So, choose Project B.

5. (a) JAYASHREE TEXTILES MFG. CO. LTD. is considering one of two mutually exclusive proposals, Project X and Project Y, which require cash outlays of ₹ 8,50,000 and ₹ 8,25,000 respectively.

The Certainty Equivalent (CE) approach is used in incorporating risk in Capital budgeting decisions.

The current yield on Government bonds is 6%, which is used as the risk-free rate.

The expected Net Cash Flows and their uncertain factors are as follows:

Year-end	Project X		Project Y	
	Cash Flow ₹	Uncertain factor	Cash Flow ₹	Uncertain factor
1	4,50,000	0.2	4,50,000	0.1
2	5,00,000	0.3	4,50,000	0.2
3	5,00,000	0.5	5,00,000	0.3

Present Value factors of ₹ 1 discounted at 6% at the end of the year 1, 2 and 3 are 0.943, 0.890 and 0.840 respectively.

Required:

(i) Which project should be accepted? Give all workings neatly and clearly.

(ii) If Risk-Adjusted Discount Rate (RADR) method is used, which project should be appraised with a higher rate and why?

(iii) Why do we discount the Cash flow using risk-free rate? 7+2+1=10

(b) "Efficient cash management will aim at maximising Cash inflows and slowing cash outflows." Discuss. 5

Answer:

5. (a)

Certainty Equivalent Factor = 1 – Uncertainty Factor.

Statement showing Net Present Value of Project X:

Year	Cash Flow (₹)	C. Eq. factor	Adjusted Cash Flow (₹)	PV F (6, n)	Present Value (₹)
1	4,50,000	0.8	3,60,000	0.943	3,39,480
2	5,00,000	0.7	3,50,000	0.890	3,11,500
3	5,00,000	0.5	2,50,000	0.840	2,10,000
Total		2.0			8,60,980
				Less: Initial Cash Outflow	8,50,000
				NET PRESENT VALUE	10,980

Statement showing Net Present Value of Project Y:

Year	Cash Flow (₹)	C. Eq. factor	Adjusted Cash	PV F (6, n)	Present Value

			Flow (₹)		(₹)
1	4,50,000	0.9	4,05,000	0.943	3,81,915
2	4,50,000	0.8	3,60,000	0.890	3,20,400
3	5,00,000	0.7	3,50,000	0.840	2,94,000
Total		2.4			9,96,315
				Less: Initial cash flow	8,25,000
				NET PRESENT VALUE	1,71,315

Decision: Since the NPV of Project Y is higher, Y should be selected. Total Certainty Equivalent Co-efficient of Project X is lower than that of Project Y. Therefore, if RADR is used, the Project X is riskier than Project Y. In other words, if RADR method is used, Project X would be analysed with a higher rate.

Since we have already accounted for risk while calculating cash flows, we discount the cash flows with risk free rate. Else, it would amount to double counting of risk.

Answer:

5. (b)

Cash management will be successful only if cash collections are to be accelerated and cash disbursements are, as far as possible, delayed or slowed.

Accelerating cash inflows can be done by using methods like; (i) prompt payment by customers, (ii) quick conversion of payment into cash, (iii) decentralised collections, and (iv) Lock Box system, etc.

For slowing down cash out flows, the methods used-are : (i) paying on last date, (ii) payment through draft, (iii) adjusting payroll funds, (iv) centralised payment system, (v) inter-bank transfer, and, (vi) making use of float, etc.

6. (a) What are Forward transactions? How can they be used to hedge? 3+2=5

(b) An Indian importer has to settle a bill for $ 5,00,000. The exporter has given the Indian company two options:

(i) Pay immediately without any interest charge;

(ii) Pay after 3 months, with interest at 6% per annum.

The importer's Bank charges 16% per annum on overdrafts.

The exchange rates are as follows:

Spot (₹/$) : 62.60/62.65

3 months (₹/$) : 63.30/63.40

What should the Company do? Give reasons. 4+4+2=10

Answer:

6. (a)

A Forward Contract is an agreement between two persons for the purchase and sale of Commodity or Financial Asset at a specified price to be delivered at a specified future date.

It is an agreement to purchase one currency and sale another for some date beyond two business days. A forward contract involves no fee, and no cash changes hands until the settlement date of the forward. A forward contract allows one to lock in an exchange rate today for a future payment or receipt, thereby eliminating the rate risk.

Forward contracts are tailor-made to the needs of the parties who may be banks in case of financial assets and trader or processor in case of commodities. Forward markets have flourised as a means to reduce price uncertainty.

Forward contract can be used to hedge or protect oneself from the price fluctuations on the future commitment date to the extent of 100%.

Answer:

6. (b)

Evaluation of comparative options offered by Exporter for payment settlement;

Option I: Pay immediately without any interest charge:		₹
• Bill value converted to Indian Rupees = $ 5,00,000 x 62.65	=	3,13,25,000
• Interest on borrowing from bank (overdraft) @16% for 3 months	=	12,53,000
		3,25,78,000

Option II: Pay after 3 months, with interest @6% per annum:			₹
• Bill value		$ 5,00,000	
• Interest @6% p.a. for 3 months = $ 5,00,000×0.06×0.25		$ 7,500	
		$ 5,07,500	
Conversion to Indian Rupees $ 5,07,500 × 63.40			3,21,75,500
	Savings		4,02,500

Advice: In the light of evaluated options, it is advisable to settle the payable after 3 months, since –

- Rupee outflow is less ₹ 4,02,500 in the option II

7. (a) GTN TEXTILE Co. exports Cotton garments to the U.S. For the year ended 2014-15, it has exported 1,20,000 pieces of garments at an average price of $ 20 per piece. Average cost of producing each piece is ₹550 for GTN. The elasticity of demand for the company's product in the U.S. market is 1.5.

Prevailing Rupee-Dollar exchange rate during the last year was ₹ 62.00. In the current year Rupee-Dollar exchange rate is expected to depreciate to ₹ 63.00.

You are required to calculate:

(i) The change in profit due to the transaction exposure.

(ii) The change in profit due to economic exposure if the company passes the benefit of depreciation on to the buyer. 5+5=10

(b) Assume that you are the calling bank. The following rates per $ is quoted against S.Fr.

Day	Quotes
1	1.6962/1.6978

2	**1.6990/1.7005**
3	**1.7027/1.7042**

(i) On which day, is it cheaper to buy US $ with respect to S.Fr.?

(ii) How many US $ do you need to buy 1000 S.Fr. on Day 1?

(iii) What is the Spread on Day 2?

(iv) If you exchanged $ 2,500 for S.Fr. 4256.75, on which day did you exchange?

1+1.5+1+1.5=5

Answer:

7. (a)

Current profit at exchange rate of ₹ 62 per $ = 1,20,000 x (20 x 62 - 550) = ₹ 8,28,00,000

Profit if Re. depreciates to ₹ 63 per $ = 1,20,000 x (20 x 63 - 550) = ₹ 8,52,00,000

So, Increase in profit due to depreciation of Rupee [Transaction Exposure] =₹[8,52,00,000 - 8,28,00,000] = ₹24,00,000

Selling Price of each garment in Rupee term = 20 × ₹62 =₹ 1,240

Price in $ terms, after depreciation of ₹ = 1,240 / 63 per $ = $ 19.68

So, decrease in price of each piece = [(20 – 19.68) / 20] x 100% = 1.6%

So, change in Quantity demanded = (-) 1.5 x (-) 1.6 % = 2.4 %; No. of Pcs. to be sold = 1,20,000 x 1.024 = 1,22,880

Profit = 1,22,880 x (1240 - 550) = ₹ 8,47,32,000; So, increase in profit due to Economic Exposure = ₹[8,47,32,000 – 8,28,00,000] = ₹ 19,32,000

Answer:

7. (b)

The rates are given for dollars against S Fr. (S Fr / $).

(i) The dollar is cheap to buy on the 1st day.

(ii) Here, we need to buy SFr 1,000. Thus, we require a quote in SFr. Since, we have a dollar quote, we convert to SFr. Quote which is simply the inverse.

$ 1 = SFr 1.6962 /1.6978; So, SFr 1 = $ 0.5890 / 0.5896;

To buy SFr 1000, we have to pay(buyer pays more) = 1000 x 0.5896 =$ 589.60

(iii) Spread on day 2 = 1.7005 -1.6990 = 0.0015 = 15 points,

(iv) $ 2500 = SFr 4256.75; Therefore, $1 = SFr 4256.75 / 2500 = 1.7027. This is same as the Bid rate on the 3 rd. day.

8. Write short notes on (*any three*): 5×3=15

(a) Benefits of Euro issues to the Investors

(b) Money Market Hedge

(C) Trading blocks

(d) Project Feasibility Report.

Answer:

8. (a) The benefits are as under:

1. Euro issues are allowed to be issued only by the companies with proven track records;
2. It is listed and traded in international stock exchanges in the de-materialised form and hence it is free from delivery and settlement problems.
3. It is generally denominated in US dollars and hence reduces the foreign exchange risk.
4. Dividend and interest on investment in Euro issue instruments may carry concessional tax rates.
5. Market for most of the script is more liquid and facilitates faster entry and exit.
6. Investors in Euro issues are not required to comply with a large number of complex formalities and regulations normally required for investment through domestic stock exchanges.

(b) Money Market Hedge:

1. Hedging payables. This involves the following steps: (i) Borrow funds in home currency; (ii) Use them to purchase the foreign currency; (iii) Invest the foreign currency for the period after which the foreign currency payable falls due; (iv) Use the proceeds to make the payment; (v) Repay the borrowed amount together with interest.
2. Hedging receivables. This involves the following steps: (i) Borrow funds in the foreign currency for the period after which the receivable is due; (ii) The amount to be borrowed should be equal to the amount of the receivable as discounted by the prevailing rate of interest; (iii) Convert the borrowed amount into home currency and use it till the receivable arrives; (iv) If the home currency funds cannot be used gainfully in the enterprise itself, invest them to earn interest.

(c) Trading Blocs.

A trading bloc is a preferential economic arrangement between a group of companies that reduces intra-regional barriers to trade in goods, services, investment and capital. There are more than 50 such arrangements at the present time. There are five major forms of economic cooperation among countries: Free trade areas, Customs unions, Common markets, Economic unions and Political unions.

The North American Free Trade Agreement among US, Canada, and Mexico is an example of free trade areas where member countries remove all trade barriers among themselves.

Under the Customs union arrangement, member nations not only abolish internal tariffs among themselves but also establish common external tariffs.

In a Common market type of agreement, member countries abolish internal tariffs among themselves and levy common external tariffs. They also allow the free flow of capital, labour, and technology.

The Economic union combines common market characteristics with harmonization of economic policy. Member nations are required to pursue common monetary and fiscal policies.

Political union combines economic union characteristics with political harmony among member countries.

(d) Project Feasibility Report:

This is prepared to present an in-depth techno-commercial analysis carried out on the project idea for considerations of the financial institutions and other authorities to make the decision, as to whether the investment on the project is to be made or not. The government guidelines on the contents of it include inter alia

(i) Survey of material requirements;

(ii) Study of demand of product or services (market analysis);

(iii) Study of the configuration of the project idea in all aspects, like, technical, product pattern, process, plant size and raw material requirements,

(iv) Study of location - geographical, political, social, etc

(v) Project schedule;

(vi) Project cost and source of finance - estimates;

(vii) Profitability and cash flow analysis;

(vii) Cost benefit analysis vs. social cost benefit analysis.

Survey of material requirements primarily relates to raw material survey with all its forms, e.g. deposits, finished products, by-products, imports, etc. Identification of uses of products or service, their present and future consumption, supply pattern and demand, etc. are needed to be specially studied.