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.

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) PQ Ltd. is selling its products on credit basis and its customers are associated with 5% credit risk. The annual turnover is expected at ₹ 5,00,000 if credit is extended with cost of sales at 75% of sale value. Credit period for 60 days. The cost of capital of the company is 15%. Administration cost 2% of sales. The net profit of the company is :

A. ₹ 1,25,000
B. ₹ 77,670
C. ₹ 88,430
D. ₹ 1,10,500

ii) The average daily sales of a company are ₹5 lac. The company normally keeps a cash balance of ₹ 80000.If the weighted operating cycle of the company is 45 days, its working capital will be:

A. ₹112.9 lac.
B. ₹ 113.3 lac
C. ₹ 5.8 lac
D. ₹ 225.8 lac.

iii) HP Leasing Company expects a minimum yield of 10% on its investment in the leasing business. It proposes to lease a machine costing ₹ 5,00,000 for ten years. If yearly lease payments are received in advance , the lease rental to be charged by the company for lease will be :

A. ₹ 81372
B. ₹ 73975
C. ₹ 72,370
D. None of (A), (B), (C).

iv) The balance sheet of ABC Ltd. Shows the capital structure as follows :
2,50,000 equity shares of ₹ 10 each; 32,000, 12% preference shares of ₹ 100 each; general reserve of ₹ 14,00,000; securities premium account ₹ 6,00,000; 25,000, 14% fully secured non-convertible debentures of ₹ 100 each.; term loans from financial institutions ₹ 10,00,000.
The leverage of the firm is:

A. 67.2%
B. 62.5%
C. 59.8%
D. 56.3%

v) The stock of Blue Company sells for ₹ 120. The present value of exercise price and the value of a call option are ₹ 108.70 and ₹ 19.80 respectively. Hence the value of the put option is:

A. ₹ 8.50
B. ₹ 9.00
C. ₹ 10
D. Zero

vi) An investor has ₹ 5,00,000 to invest. What will be his expected risk premium in investing in equity versus risk-free securities in the following conditions :

Investment	Probability	Expected return
Equity	0.6	₹ 2,00,000
	0.4	(-) ₹ 1,50,000
Risk-free security	1.0	₹ 25,000

A. ₹ 35,000
B. ₹ 45,000
C. ₹ 60,000
D. ₹ 85,000

vii) Snow White Ltd. has a debt-equity mix of 30/70. If Snow White Ltd's debt beta is 0.3 and overall beta for its activity (or projects) is 1.21, what is the beta for its equity?

A. 1.65
B. 1.60
C. 1.52
D. None of the above

viii) The value of a share of MN Ltd. after right issue was found to be ₹ 75. The theoretical value of the right is ₹ 5. The number of existing shares required for a rights share is 2. The subscription price at which the right share issued were:

A. ₹ 22.50
B. ₹ 40.00
C. ₹ 65.00
D. ₹ 82.00

ix) An Indian company is planning to invest in US. The US inflation rate is expected to be 3% and that of India is expected to be 8% annually. If the spot rate currently is ₹ 45/ US$, what spot rate can you expect after 5 years?

A. ₹ 59.09/US$
B. ₹ 57.00/US$
C. ₹ 57.04/US$
D. ₹ 57.13/US$

b) State if each of the following sentences is T (= true) or F (= false): [5]

i) The key issue of the theory of capital structure is to examine whether a business can change its value and cost of capital by changing its capital structure.

ii) Commercial paper introduced by RBI in early 1990, is 'a secured promissory note' tied to any specific transaction.

iii) A call option is 'in-the money' when the price of the underlying asset is below the exercise price of the call.

iv) LIBOR for treasury bill rate is the example of basis swaps.

v) A project is a "One-shot" major undertaking.

c) Match the assumptions to the different 'Capital Structure theories':

Assumptions

(i) Cost of debt and cost of equity are constant, and overall cost of capital decreases with increase in leverage.

(ii) Cost of debt and overall cost of capital are constant, and cost of equity will change with the degree of leverage.

(iii) Value of firm increases with increase in financial leverage upto a certain limit only.

(iv) Overall cost of capital and the value of firm are independent of the capital structure.

Capital Structure theories

(A) Modigliani- Miller Approach

(B) Traditional Approach

(C) Net Income Approach

(D) Net Operating Income Approach

(Note: Your answer may be of the form:

Assumption No---------- Capital letter indicating Capital Structure theory)

[1/2x4=2]

Answer:

a)

i) B ₹ 77,670

Profitability of credit sales			(₹)
Credit sales			5,00,000
Less: Cost of sales (₹ 5,00,000 x 75/100)			3,75,000
			1,25,000
Less: Cost of granting credit			
Default risk	(₹ 5,00,000 x 5/100)	25,000	
Opportunity cost	(₹ 5,00,000 x 60/365 x 15/100)	12,330	
Administration cost	(₹ 5,00,000 x 2/100)	10,000	47,330
Net profit			77,670

ii) D ₹ 225.8 lac.

The working capital requirement is for 45 days of the weighted operating cycle plus normal cash balance = Sales per day × weighted operating cycle+ cash balance requirement

= ₹ 5 lac × 45 + ₹ 0.80 lac = ₹ 225.80 lac.

iii) B ₹ 73975

Let , lease rental per annum be , x

₹ 500000 = $x + x / (1+0.1) + x / (1+0.1)^2 + \ldots\ldots\ldots\ldots + x / (1+0.1)^9$

$= x + 5.759\ x = 6.759\ x$

or, x = ₹ 500000/ 6.759 = ₹ 73975.

iv) C 59.8%

Fixed income funds = Preference share capital + Debentures + Term loans

= ₹ 32,00,000 + ₹ 25,00,000 + ₹ 10,00,000 = ₹ 67,00,000

Equity funds = Equity share capital + General reserve + Securities premium
= ₹ 25,00,000 + ₹ 14,00,000 + ₹ 6,00,000 = ₹ 45,00,000

Total funds used in the capital structure
= ₹ 67,00,000 + ₹ 45,00,000 = ₹ 1,12,00,000

Leverage = $\frac{₹\ 67,00,000}{₹\ 1,12,00,000} \times 100$ = 59.8%

v) A ₹ 8.50

Value of put option = Value of call option + PV of exercise price – Stock price
= ₹ 19.80 + ₹ 108.70 – ₹ 120
= ₹ 8.50

vi) A ₹ 35,000

Expected premium = (0.6 x ₹ 2,00,000) + [0.4 x (-) ₹ 1,50,000] – ₹ 25,000
= ₹ 1,20,000 – ₹ 60,000 – ₹ 25,000
= ₹ 35,000

vii) B - 1.60

β_A = $\beta_d(D/V) + \beta_e (E/V)$
1.21 = $(0.30 \times 0.3) + (\beta_e \times 0.7)$
1.21 = $0.09 + 0.7\ \beta_e$
β_e = 1.12/0.7
= 1.60

viii) C ₹65.

Theoretical value of Right Issue: $R_P = \frac{P_0 - P_S}{N_E + 1}$

Where, R_p = Value of Right
P_0 = Current Market Price per share
P_s = Rights Subscription Price
N_E = Number of Existing share for every right share

$$R_P = \frac{P_0 - P_S}{N_E + 1}$$

$$5 = \frac{P_0 - P_S}{(2+1)}$$

$$P_0 = 15 + P_S \text{.....(i)}$$

Theoretical Post Right Value: $P_1 = \frac{(P_0 \times N_E) + (P_S \times N_R)}{N_E + N_R}$

P_1 = Theoretical Post – right Price after right issue
P_0 = Market Price per share before right issue
P_s = Right Subscription Price
N_E = Number of existing share for every right share.
N_R = Number of new share.

$$P_1 = \frac{(P_0 \times N_E) + (P_S \times N_R)}{N_E + N_R}$$

$$75 = \frac{(P_0 \times 2) + (P_S \times 1)}{2+1}$$

Putting the value of P_0

$$75 = \frac{(5 + P_S) \times 2 + P_S}{3}$$

$$225 = 30 + 2P_S + P_S$$

$$3P_S = 225 - 30$$

$$P_S = \frac{195}{3} = 65$$

ix) C ₹ 57.04/US$

According to Purchase Power Parity, spot rate after 5 years
= ₹ 45 x [(1 + 0.08)/ (1 + 0.03)]^5= 45 x 1.2675 = ₹ 57.04

b)

i) True.

ii) False. 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

iii) False: A call option is not out- of- the money when the price of the underlying asset is below the exercise price of the Call and in- the – money when the price of underlying asset is above the striking price of the call.

iv) True.

v) True.

c)

i) C
ii) D
iii) B
iv) A

Part B (75 Marks)

2.

a) The Directors of Chintamani Ltd. present you with the Balance sheets as on 30th June, 2012 and 2013 and ask you to prepare statements which will show them what has happened to the money which came into the business during the year 2013.

Liabilities :	**30.6.12**	**30.6.13**
Authorised capital 15,000 shares of ₹ 100 each	**15,00,000**	**15,00,000**
Paid up capital	**10,00,000**	**14,00,000**
Debentures (2013)	**4,00,000**	**—**
General Reserve	**60,000**	**40,000**

P & L Appropriation A/c	36,000	38,000
Provision for the purpose of final dividends	78,000	72,000
Sundry Trade Creditors	76,000	1,12,000
Bank Overdraft	69,260	1,29,780
Bills Payable	40,000	38,000
Loans on Mortgage	—	5,60,000
	17,59,260	23,89,780
Assets :		
Land & Freehold Buildings	9,00,000	9,76,000
Machinery and Plant	1,44,000	5,94,000
Fixtures and Fittings	6,000	5,500
Cash in hand	1,560	1,280
Sundry Debtors	1,25,600	1,04,400
Bills Receivable	7,600	6,400
Stock	2,44,000	2,38,000
Prepayments	4,500	6,200
Share in other companies	80,000	2,34,000
Goodwill	2,40,000	2,20,000
Preliminary expenses	6,000	4,000
	17,59,260	23,89,780

You are given the following additional information:

A. Depreciation has been charged (i) on Freehold Buildings @ 2½% p.a. on cost ₹ 10,00,000. (ii) on Machinery and plant ₹ 32,000 (iii) on Fixtures and Fittings @5% on cost, ₹ 10,000. No depreciation has been written off on newly acquired Building and Plant and Machinery.

B. A piece of land costing ₹ 1,00,000 was sold in 2013 for ₹ 2,50,000. The sale proceeds were credited to Land and Buildings.

C. Shares in other companies were purchased and dividends amounting to ₹ 6,000 declared out of profits made prior to purchase has received and use to write down the investment (shares).

D. Goodwill has been written down against General Reserve.

E. The proposed dividend for the year ended 30th June 2012 was paid and, in additions, an interim dividend, ₹ 52,000 were paid. [10]

b) What are the basic elements of joint venture?

[5]

Answer:

a)

Funds Flow Statement

Sources		Applications	
Decrease in working capital	121500	Purchase of land and building	351000
Sale proceed of land	250000	Purchase of plant and machinery	482000
Dividend received	6000	Purchase of shares (investment)	160000
Issue of Shares	400000	Redemption of debentures	400000
Loan	560000	Dividends for 2012 paid	78000
Funds from operations	185500	Interim dividend paid	52000
	1523000		1523000

Working note No.1: Changes in working capital

	2012	2013
Current assets		
Cash	1560	1280
Debtors	125600	104400
Bills receivable	7600	6400
Prepaid	4500	6200
Stock	244000	238000
Total Current Asset	383260	356280
Current liabilities		
Creditors	76000	112000
Overdraft	69260	129780
Bills payable	40000	38000
Total Current Liabilities	185260	279780
Working capital	198000	76500
Decrease in working capital		121500

Working note No.2:

Depreciation

On Buildings	25000
On Plant & Machinery	32000
On Furniture & Fittings	500
	57500

Working note No. 3: Purchase or sale of fixed assets / Investments:
Land and buildings:

2012 (WDV)	900000
(-) Depreciation	25000
	875000
(-) Land sold	100000
	775000
(+) Purchases (b/f)	351000
	1126000
(-) Profit on sale	150000
2013 (WDV)	976000

Plant & machinery:

WDV	144000
(-) Depreciation	32000
	112000
(+) Purchase (b/f)	482000
	594000
Investments:	
2012	80000
(-) Dividend in capital nature	6000
	74000
(+) Purchases (b/f)	160000
2013	234000

Working note No.4:

P & L Adjustment A/c

To depreciation	57500	By balance b/d	36000
To dividend proposed	72000	By funds from operation(b/f)	185500
To preliminary expenses written off	2000		
	52000		
To interim dividend	38000		
	221500		221500

b) Contractual Agreement. JVs are established by express contracts that consist of one or more agreements involving two or more individuals or organizations and that are entered into for a specific business purpose.

Specific Limited Purpose and Duration. JVs are formed for a specific business objective and can have a limited life span or long-term. JVs are frequently established for a limited duration because (a) the complementary activities involve a limited amount of assets; (b) the complementary assets have only a limited service life; and/or (c) the complementary production activities will be of only limited efficacy.

Joint Property Interest. Each JV participant contributes property, cash, or other assets and organizational capital for the pursuit of a common and specific business purpose. Thus, a

JV is not merely a contractual relationship, but rather the contributions are made to a newly-formed business enterprise, usually a corporation, limited liability company, or partnership. As such, the participants acquire a joint property interest in the assets and subject matter of the JV.

Common Financial and Intangible Goals and Objectives. The JV participants share a common expectation regarding the nature and amount of the expected financial and intangible goals and objectives of the JV. The goals and objectives of a JV tend to be narrowly focused, recognizing that the assets deployed by each participant represent only a portion of the overall resource base.

Shared Profits, Losses, Management, and Control. The JV participants share in the specific and identifiable financial and intangible profits and losses, as well as in certain elements of the management and control of the JV.

3.

a) Zenith Industrial Ltd. is thinking of investing in a project costing ₹ 20 lakhs. The life of the project is five years and the estimated salvage value of the project is zero. Straight line method of charging depreciation is followed. The tax rate is 50%. The expected cash flows before tax are as follows :

Year	**1**	**2**	**3**	**4**	**5**
Estimated Cash flow before depreciation and tax (₹ lakhs)	**4**	**6**	**8**	**8**	**10**

You are required to determine the : (i) Payback Period for the investment, (ii) Average Rate of Return on the investment, (iii) Net Present Value at 10% Cost of Capital, (iv) Benefit-Cost Ratio. [10]

b) What is Balance Score Card [BSC]? What are its perspectives? [5]

Answer:

a) Calculation of Annual Cash Inflow After Tax

(₹ lakhs)

Particulars	**1 year**	**2 year**	**3 year**	**4 year**	**5 year**
Cash inflow before depreciation and tax	4	6	8	8	10
Less : Depreciation	4	4	4	4	4
EBT	–	2	4	4	6
Less : Tax @ 50%		1	2	2	3
EAT	-	1	2	2	3
Add : Depreciation	4	4	4	4	4
Cash inflow after tax	4	5	6	6	7

(i) **Pay Back Period :**

Year	**Cash inflow after tax**	**Cumulative cash inflow after tax**
1	4	4
2	5	9
3	6	15
4	6	21

5	7	28

Pay Back Period = 3 years + $\frac{₹\ 5\ lacks}{₹\ 6\ lacks}$ × 12 Months = 3 years 10 months.

(ii) **Average Rate of Return**

$$ARR = \frac{Average\ Annual\ Profit\ After\ Tax}{Average\ Investment} \times 100$$

$$= \frac{Average\ EBIT(1-t)}{Average\ Investment}$$

Average return = ₹ 8 lakhs/5 years = ₹ 1.6 lakhs
Average investment = ₹ 20 lakhs/2 = ₹ 10 lakhs
Average rate of return = $\frac{1.6}{10} \times 100$ = 16%

(iii) **Net Present Value at 10% Cost of Capital**

Year	Cash inflow after tax	Discount factor @ 10%	Present value
1	4	0.909	3.636
2	5	0.826	4.130
3	6	0.751	4.506
4	6	0.683	4.098
5	7	0.621	4.347
P.V. OF CASH INFLOW			20.717
LESS: Initial investment			20.00
NPV			**0.717**

(iv) **Benefit-Cost Ratio** = $\frac{\text{P.V. of cash inflow}}{\text{P.V. of cash outflow}} = \frac{20.717}{20}$ = 1.036

b) 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 Dr. 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.

4.

a) X Ltd. currently has an annual turnover of ₹ 20 lakhs and an average collection period of 4 weeks. The company propose to introduce a more liberal credit policy which they hope will generate additional sales, as shown below:

	Additional Collection Period	Sales	default
1	2 Weeks	2,00,000	2%
2	4 Weeks	2,50,000	3%
3	6 Weeks	3,50,000	5%
4	8 Weeks	5,00,000	8%

The selling price of the product is ₹ 10 and the variable cost per unit is ₹ 7.
The current bad debt loss is 1 % and the desired rate of return on investment is 20%. For the purpose of calculation, a year is to be taken to comprise of 52 weeks. Indicate which of the above policies you would recommend the company to adopt. [7]

b) A company requires ₹ 20 lacs and provides the following information:
- **Target Debt Equity Ratio = 3:2**

- **K_d = 12%, for the first 4 lacs and 12.5% for the balance**
- **EPS for the current year ₹ 20 per share**
- **Dividend payout ratio 60%, growth rate 5%**
- **Current MPS ₹ 90. Flotation Cost ₹ 6 each**
- **Present Equity Share Capital ₹ 2 lacs, divided into fully paid shares of ₹ 10 each.**
- **Corporate Tax Rate 30%.**

Calculate weighted Marginal Cost of Capital. [8]

Answer:

a) Comparative statement of various credit policies

Particulars	Current	Policy 1	Policy 2	Policy 3	Policy 4
Sales ₹ Lac	20.0	22.0	22.5	23.5	25.0
Contribution @ 30%	6.0	6.6	6.8	7.1	7.5
Bad debts %	1%	2%	3%	5%	6%
Amount of bad debts ₹ Lac	0.2	0.4	0.7	1.2	1.5
Average collection period in weeks	4	6	8	10	12
Average debtors ₹ Lacs	1.5	2.5	3.5	4.5	5.8
Cost of debtors @ 20%	0.3	0.5	0.7	0.9	1.2
Contribution - bad debts - cost of debtors	5.5	5.7	5.4	5.0	4.8

The net benefit is highest with Policy 1 with credit period of 6 weeks. It is recommended for adoption.

b) Calculation of Marginal Cost of Capital:

Particulars	₹	Proportion	After tax cost	Marginal WACC 5 = (3×4)
Equity Share Capital (New)	6,40,000	6.4/20	20.00%	6.40%
Retained Earning	1,60,000	1.6/20	19.00%	1.52%
12% Debenture	4,00,000	4/20	8.40%	1.68%
12.5% Debenture	8,00,000	8/20	8.75%	3.50%
	20,00,000			K_0 = 13.10%

Working Notes:

(i) Calculation of Retained Earnings:

Retained Earnings = Earning for Eq Share holder (EES) – Dividend
= (EPS × No. of Share) – (DPS × No. of Share)
= ₹ 20 × 20,000 – 20 × 0.60 × 20,000
= ₹ 4,00,000 – 2,40,000 = ` 1,60,000

(ii) External Debt:

₹ 20,00,000 × 3/5 = ₹ 12,00,000
12% Debt = ₹ 4,00,000
12.5% Debt = ₹ 8,00,000 (i.e. 12,00,000 – 4,00,000)

(iii) External Equity Require:

= (Total Fund × Proportion of Equity) – Retained Earnings

= ₹ 20,00,000 × 2/5 – 1,60,000
= ₹ 8,00,000 – 1,60,000
= ₹ 6,40,000

(iv) Cost of Equity (For New Shares):

$$K_e = \frac{D_1}{NP} + g$$

$$\text{where} D_1 = D_0 (+g)$$

$$= \frac{20 \times 0.60 (+0.05)}{90 - 6} + 0.05$$

$$= \frac{12 \times 1.05}{84} + 0.05 = 20\%$$

Where, D_1 = Expected dividend per share
D0 = Current dividend per share
g = growth rate
NP = Net Proceeds

(v) Cost of 12% Debt:
= I (1 – t)
= 12% (1 – 0.30)
= 8.4%

Where I = Interest
t = tax rate

(vi) Cost of 12.5% Debt:
= I (1 – t)
= 12.5% (1 – 0.30)
= 8.75%

(vii)Cost of Retained Earnings:

$$= \frac{D_1}{MP} + g \quad = \frac{D_0 (+g)}{MP} + g$$

$$= \frac{20 \times 0.60 (+0.05)}{90} + 0.05$$

$$= \frac{12.6}{90} + 0.05$$

$$= 19\%$$

5.

a) The following data is available for XYZ Ltd. :

Sales	**₹ 2,00,000**
Less : Variable cost @30%	**60,000**
Contribution	**1,40,000**
Less : Fixed Cost	**1,00,000**
EBIT	**40,000**
Less : Interest	**5,000**
Profit before tax	**35,000**

Find out:

(i) Using the concept of financial leverage, by what percentage will the taxable income increase if EBIT increase by 6%?

(ii) Using the concept of operating leverage, by what percentage will EBIT increase if there is 10% increase in sales, and

(iii) Using the concept of leverage, by what percentage will the taxable income increase if the sales increase by 6%? Also verify results in view of the above figures.

[2×3=6]

b) Mr. Kamal is contemplating purchase of 1000 equity shares of a company. His expectation of return is 10% before tax by way of dividend with an annual growth of 5%. The company's last dividend was ₹ 2 per share. Even as he is contemplating, Mr. Kamal suddenly finds, due to a budget announcement dividends have been exempted from tax in the hands of recipients. But the imposition of distribution tax on the company is likely to yield a fall in dividend of ₹ 0.20 per share. Kamal's marginal tax rate is 30%

Required: Calculate what should be Mr. kamal's estimate of the price per share before and after the budget announcement. [5]

c) List out the steps involved to determine the financial viability of a project. [4]

Answer:

a)

(i) Degree of financial leverage:

DFL = EBIT/Profit before Tax = 40,000/35,000= 1.14

If EBIT increase by 6%, the taxable income will increase by 1.14×6 = 6.85% and it may be verified as follows :

EBIT (after 6% increase)	₹ 42,400
Less: Interest	5,000
Profit before Tax	37,400

Increase in taxable income is ₹ 2,400 i.e., 6.85% of ₹ 35,000

(ii) Degree of operating leverage:

DOL = Contribution/EBIT = 1,40,000/40,000 = 3.50

If Sales increase by 10%, the EBIT will increase by 3.50×10 = 35% and it may be verified as follows :

Sales (after 10% increase)	₹ 2,20,000
Less: Variable Expenses @30%	66,000
Contribution	1,54,000

Less: Fixed cost	1,00,000
EBIT	54,000

Increase in EBIT is ₹ 14,000 i.e., 35% of ₹ 40,000.

(iii) **Degree of combined leverage:**

DCL = Contribution/Profit before Tax = 1,40,000/35,000= 4

If Sales increases by 6%, the profit before tax will increase by 4×6 = 24% and it may be verified as follows :

Sales (after 6% increase)	₹ 2,12,000
Less : Variable Expenses @ 30%	63,600
Contribution	1,48,400
Less : Fixed cost	1,00,000
EBIT	48,400
Less : Interest	5,000
Profit before Tax	43,400

Increase in Profit before tax is ₹ 8,400 i.e., 24% of ₹ 35,000.

b) We know that the price of share is found out using the dividend discount model formula i.e. $P = \frac{D_1}{K_e - g}$, where P is the price, K_e is the expected rate of return post tax, g is the anticipated growth rate.

Before Budget Announcement	After Budget Announcement
Given D_0 = ₹ 2	Given D_0 = ₹ 2
D_1 = 2 x (1.05) x (1- 0.3) = ₹1.47	D_1 = 1.8 x 1.05 = ₹ 1.89
Ke = 10% x (1 - 0.3) = 7% [Tax 30%]	K_e = 10% x (1 - 0.3) = 7% [Tax 30%]
g = 5%	g = 5%
Substituting we get Price = ₹ 73.50	Substituting we get Price = ₹ 94.50

Note: In the first case Mr. Kamal pays tax on dividend, and in the second it is the company that pays tax. Therefore Mr. Kamal's receipts are less in the first case. We are discounting the dividend by a post tax return, K_e = 7%. In case the price is to be found with a pre-tax return of K_e = 10%, then the answers would be ₹ 29.4 & ₹ 37.8 respectively.

b) The steps involved to determine the financial viability of a project are as follows:
(i) Determination of project cost
(ii) Sources of fund/means of financing and proper utilization of fund
(iii) Profitability analysis
(iv) Break-even analysis

(v) Cash flow/fund flow statement
(vi) Debt service coverage ratio.

6.

a) Given the following quotes for per unit of each currency against US dollar, on two different dates:

British Pound	**1.5398**	**1.6385**
Canadian Dollar	**0.6308**	**0.6591**
EMU euro	**0.9666**	**1.0835**
Japanese yen	**0.008273**	**0.008343**
Mexican peso	**0.1027**	**0.0917**
Swedish Krona	**0.1033**	**0.1179**

What is the rate of appreciation or depreciation of each currency over the period? [5]

b) 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. [3+2]

c) What are currency futures? List the steps involved in the technique of hedging through futures. [5]

Answer:

a)

Pound	($1.6385 – $1.5398)/$1.5398	+0.0641	+6.41%
Canadian dollar	($0.6591 – $0.6308)/$0.6308	+0.0449	+4.49%
Euro	($1.0835 – $0.9666)/$0.9666	+0.1209	+12.09%
Yen	($0.008343 – $0.008273)/$0.008273	+0.0086	+0.86%
Peso	($0.0917 – $0.1027)/$0.1027	-0.1071	-10.71%
Krona	($0.1179 – $0.1033)/$0.1033	+0.1413	+14.13%

b)

i) Calculation of Current spot rate of ¥/₹

₹/$ = 64.50

¥/$ = 120.25

¥/₹ = 120.25 x 1/64.5

¥/₹ = 1.8643

Calculation of expected rate of ¥/₹

¥/$ = 140

₹/$ = 70

¥/₹ = 140/70 = 2.0000

∴ Calculation of Expected loss without forward cover

Current exposure = 120 lakhs/ 1.8643 = 64,36,800

Expected exposure = 120 lakhs/ 2.0000 = 60,00,000

Expected loss without forward cover = 4,36,800

ii) Computation of Forward rate ¥/₹

¥/$ = 128.50
₹/$ = 66.50
∴¥/₹ = 128.50/66.50 = 1.9323

Current exposure = 120 lakhs/ 1.8643 = 64,36,800
Exposure, if forward cover is taken = 120 lakhs/ 1.9323 = 62,10,000
Expected loss if forward cover is not taken = 2,26,8000
Suggested to take forward cover.

c) A currency futures contract is a derivative financial instrument that acts as a conduct to transfer risks attributable to volatility in prices of currencies. It is a contractual agreement between a buyer and a seller for the purchase and sale of a particular currency at a specific future date at a predetermined price. A futures contract involves an obligation on both parties to fulfil the terms of the contract. A futures contract can be bought or sold only with reference to the USD.

There are six steps involved in the technique of hedging through futures:

i) Estimating the target income (with reference to the spot rate available on a given date.)
ii) Deciding on whether Futures Contracts should be bought or sold.
iii) Determining the number of contracts (since contract size is standardised).
iv) Identifying profit or loss on target outcome.
v) Closing out futures position and
vi) Evaluating profit or loss on futures.

7.

a) You are given the following information about current rates for Sterling Spot & Forward.

	Spot	1-month Forward	3-month Forward
Canadian Dollar	**1.8630 - 0.8640**	**30 - 20 cents Premium**	**0.90 - 80 Premium**
Belgian Franc	**72.20 - 30**	**10 - 20 cents Discount**	**45 - 55 Discount**

Danish Kroner	**13.01 - 02**	**44 - 45 5/8 Discount**	**18 3/8 – 19**
German DM	**3.065 - 075**	**2 - 1.5 Premium**	**5.5 - 5.0 Premium**

Calculate the cost or value in sterling to a customer, who wishes to

i) Buy Canadian dollars 25000 spot

ii) Buy Belgian francs 75000 three months forward

iii) Sell Danish Kroner 20000 three months forward

iv) Sell DM 6000 one month forward. [9]

b) An import house in India has bought gods from Switzerland for SF 10,00,000. The exporter has given the Indian company two options.

(i) Pay immediately the bill for SF 10,00,000;

(ii) Pay after 3 months, with interest Q 5% p.a..

The importer's bank charges 14% on overdrafts. If the exchange rates are as follows, what should the company do?

Spot (₹/SF) : 30.00/30.50

3-month (₹/SF): 31.10/31.60. [6]

Answer:

a)

i) To buy 25000 Canadian Dollars (CD) Spot
First get a quote in CD.
1 CD = 1/1.8630 = £0.5368
Therefore to get 25000 CD customer pays = 25000 x 0.5368 = £13420

ii) To buy 75000 Belgian Francs (BF) 3m fwd.
First get a quote in BF.
Spot rate (BF/£) 72.20/72.30
3m fwd. rate (BF/£) 72.65/72.85 [Swap low/high, ascending order, hence add]
3m fwd. rate (£/BF) 0.0137/0.0138 [1 BF = 1/72.65 = £0.0138] [1/7285 / 1/7265]
Therefore to get 75000 BF customer pays = 75000 x 0.0137 = £ 1027.50

iii) Sell Danish Kroner (DK) 20000 three months forward
Spot rate (DK/£) 13.01/13.02
Im fwd. rate (DK/£) 13.1938/13.2175 [Swap 18.375/19.75, Asc. order, hence add]
Im fwd. rate (£/DK) 0.0757/0.0758 [1 DK = 1/13.1938 - £0.0758]
Therefore to sell 20000 DK customer gets = 20,000 x 0.0757 = £ 1514

iv) Sell DM 6000 one months forward
Spot rate (DM/£) 3.065/3.075
1m fwd. rate (DM/£) 3.045/3.060 [Swap 2.0/1.5, Desc. order, hence subtract]
Im fwd. rate (£/DM) 0.3268/0.3284 [1 DM = 1/3.045 = £0.3284]
Therefore to sell 6000 DM customer gets = 6000x0.3268 = £ 1960.8.

b) Alternative 1: Pay immediately
Amount paid = SF 10,00,000 = 10,00,000 x ₹ 30.50 = ₹ 3,05,00,000
Interest payable to Indian bank for 3 months = 0.14 / 4 x (3,05,00,000) = ₹ 10,67,500
So, total payment at the end of 3 months = ₹ 3,15,67,500

Alternative 2: Settle the payable after 3 months.
Amount payable = SF 10,00,000
Interest for 3 months = 0.05 / 4 (AF 10,00,000) = SF 12,500
Total repayment = SF 19,12,500 at the end of 3 months.

To obtain SF 10,12,500, the Company will have to sell forward (₹10,12,500) (31.60) = ₹ 3,19,95,000

Since rupee outflow is lesser in the first alternative, it is advisable to settle the payable immediately. The reason for this disparity is that the 3 month forward premium on the SF exceeds the interest differential.

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

a) Index future
b) Bought-out deals
c) Off Balance sheet financing
d) Merchant Banker

Answer:

a) Index futures:
An index future is a derivative whose value is dependent on the value of the underlying asset (e.g. BSE Senex, S&P, CNX NIFTY). While trading on index futures, an investor is basically buying and selling the basket of securities comprising an index in their relative weights.
Unlike commodity and other futures contracts index future contracts are settled in cash. Index futures contract is basically an obligation to deliver a settlement, an amount equal to M (Multiplier) times the difference between the stock index value on the expiration date of contract and the price at which the contract was originally struck (indicated as (I - P) X M), (the value of M is pre-determined for each stock MARKET INDEX). The transactions, in actual practice, are settled through clearing house and no actual or physical delivery of stock is made. At the close of the trading session each day, every customer's position is marked to Market.
Index futures help an investor to take a position on the market and also hedge the share portfolio against adverse market conditions.

b) Bought Out Deals:
In bought out deal, a company allots shares in full or in lots to a single investor or a group of investors at a negotiated price between the company and the investor(s). After a

particular period as agreed between the two parties, the shares market. The holding cost of the sponsor may be either paid by the company or the sponsor may retain the profit on issue as per terms and conditions of agreement. After the public offering the shares may be got listed in stock exchange.

BOD are used to takeover a running company. It is a process of investment by a sponsor directly in a company. Advantages:

1. The company can use the fund immediately and is able to focus its attention to execution of project.
2. It is very suitable in situation when money needs to be arranged fast without which the project may suffer.
3. Preliminary expenses are nil or very little.
4. It is easier to convince an investor for an investment in a company rather than the general public.
5. When the conditions are not favorable for bringing out a public Issue, the bought out deals offer an immediate and an amicable solution.
6. When the shares are offered to public, the general public becomes more confident about the issue because a professional banker has already invested in it. The public expects high rewards in their investment and they are generally not disappointed.

c) Off Balance Sheet Financing

A form of financing in which large capital expenditure are kept off of a company's balance sheet through various classification methods. Companies will often use off-balance-sheet financing to keep their debt to equity (D/E) and leverage ratio low, especially if the inclusion of a large expenditure would break negative debt covenants.

Contrast to loans, debt and equity, which do appear on the balance sheet. Examples of Off-balance – sheet financing includes joint ventures, research and development partnerships, and operating leases (rather than purchases of capital equipment).

Operating lease are one of the most common forms of off-balance-sheet financing. In these cases, the asset itself is kept on the lessor's balance sheet and the lessee reports only the required rental expenses for use of the asset. Generally Accepted Accounting Principles in the U.S. have set numerous rules for companies to follow in determining whether a lease should be capitalized (including on the balance sheet) or expensed.

This term came into popular use during the Enron bankruptcy. Many of the energy traders' problems stemmed from setting up inappropriate off-balance-sheet entities.

d) Merchant Banker

The term merchant banking has been used differently in different parts of the world and is so widely used that sometimes, it is applied to banks who are not merchants, sometimes to merchants who are not bank and sometimes to those agencies who are neither merchants not banks.

Merchant banking can be defined as a non-banking financial activity resembling banking being performed all over the world by both banking and non-banking institutions.

Merchant bank can be defined as an institution or an organization which provides a number of services including management of share (and debenture) issues, portfolio management services, underwriting of shares, credit management and other financial

services. The merchant banks offer services for a fee while commercial banks accept deposits and give loans on interests. Merchant banks do not act as retail banks for general public and don't accept deposits generally. The merchant banks are also different from the dealers, traders and brokers of shares and debentures. The merchant banks mainly deal in new issues while the dealers, traders and brokers mainly deal in secondary market.