

FINAL EXAMINATION – GROUP-III (SYLLABUS - 2008)

SUGGESTED ANSWERS TO QUESTIONS

JUNE 2009

PAPER - P12 : FINANCIAL MANAGEMENT AND INTERNATIONAL FINANCE

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

Part A (25 Marks)

Question:

1. (a) In each of the cases given below, one out four alternatives is correct. Indicate the correct answer (= 1 mark) and give your workings/reasons briefly (= 1 mark).
 - (i) ZENEETH LTD. is a manufacturing company having asset turnover ratio of 2 and debt-asset ratio of 0.60 for the year ended 31st March, 2009. If its net profit margin is 5 per cent, the Return on Equity (ROE) of the company will be
 - (A) 20%
 - (B) 25%
 - (C) 16.7%
 - (D) Data insufficient
 - (ii) The degree of operating leverage and degree of financial leverage of VINTEX LTD. are 2.00 and 1.5 respectively. What will be the percentage changes in EPS, if the sale increases by 10%?
 - (A) 10% increase
 - (B) 15% increase
 - (C) 30% increase
 - (D) Insufficient information
 - (iii) The spot and 6 months forward rates of US \$ in relation to the rupee (Re/\$) are Rs. 48.95/49.13 and Rs. 49.85/49.96 respectively. What will be the annualised forward margin (premium with respect to bid price)?
 - (A) 4.10%
 - (B) 4.00%

- (C) 3.68%
 - (D) None of (A), (B) and (C)
 - (iv) ASHRIN LTD. has an EPS of Rs.3 last year and it paid out 60% of its earnings as dividends that year. The growth rate in earnings and dividends in the long term is expected to be 6%. If the required rate of return on equity for Ashrin Ltd. is 14%. What would be its P/E ratio?
 - (A) 8.20
 - (B) 7.95
 - (C) 7.00
 - (D) 6.50
 - (v) The current spot rate for the US dollar is Rs. 50. The expected inflation rate is 6 per cent in India and 2.5 per cent in the US. What will be the expected spot rate of the US dollar a year hence?
 - (A) Rs. 52.50
 - (B) Rs. 52.00
 - (C) Rs. 51.71
 - (D) None of (A), (B) and (C)
 - (vi) Two firms PREETI LTD. and MAHATI LTD. are similar in all respects except that Mahati Ltd. uses Rs. 10,00,000 debt in its capital structure. If the corporate tax rate for these firms is 40%, the value of Mahati Ltd. exceeds that of Preeti Ltd. by
 - (A) Rs. 4,00,000
 - (B) Rs. 6,00,000
 - (C) Rs. 6,20,000
 - (D) Rs. 7,00,000
 - (vii) The stock of ANUSA LTD. has a beta of 0.95 and an expected return of 13.60 per cent. The market portfolio has an expected return of 14.00 per cent. Based on CAPM what would be the risk premium for Anusa Ltd.'s stock?
 - (A) 7.60%
 - (B) 6.00%
 - (C) 5.54%
 - (D) None of (A), (B) and (C)
- 2 x 7 = 14
- (b) Choose the most appropriate one from the stated options and write it down (only indicate A, B, C, D as you think correct) (= 1 mark each)
 - (i) Which of the following statements is most correct?
 - (A) The NPV method assumes that cash flows will be reinvested at the cost of capital while the IRR method assumes reinvestment at the IRR.
 - (B) The NPV method assume that cash flows will be reinvested at the risk free rate while the IRR method assumes reinvestment at the IRR.
 - (C) The NPV method assumes that cash flows will be reinvested at the cost of capital while the IRR method assumes reinvestment at the risk-free rate.
 - (D) The NPV method does not consider the inflation premium.

- (ii) A decrease in a firm's willingness to pay dividends is likely to result from an increase in its
- Earnings stability
 - Access to capital markets
 - Profitable investment opportunities
 - Collection of accounts receivable
- (iii) Which of the following statements is true in respect to the mobilization of funds by a finance Manager?
- Assessing the cost and benefits of a project under consideration.
 - Interacting with banking agencies for procuring funds.
 - Appraisal of investment proposals given by various departments.
 - Deciding the optimum quantity of raw materials to be ordered for procurement.
- (iv) Which of the following tools for managing the risk is used in case of an interest rate swap?
- Avoidance
 - Loss control
 - Separation
 - Transfer
- (v) Variable rate investors are the typical user of
- Interest rate caps
 - Interest rate collars
 - Both (A) and (B)
 - Interest rate floors
- (vi) Which of the following is not an issue considered as part of economical appraisal of projects?
- Impact of the project on income distribution in the society.
 - Impact of the project on the wealth of the shareholders.
 - Impact of the project on the level of savings and investment in the society.
 - Impact of the project in creating self-sufficiency in the society.
- 1 x 6 = 6
- (c) Mention whether the following statements are **True or False**:
- Feasibility Report is used when a project is completed to ascertain its feasibility.
 - A Consular Invoice is issued by the seller of foreign goods from all foreign countries.
 - Euro-currency market is composed of several large Banks that accept deposits and provide loans in various currencies.
 - Working Capital Management is primarily concerned with striking a balance between liquidity and profitability.
 - Sensitivity Analysis is about estimating the impact of market fluctuations on project profitability.
- 1 x 5 = 5

PART-A

Answer to Question No 1(a):

(i) → B: 25%

According to the Du-Pont Analysis

$$ROE = (\text{Net Profit/Sales}) \times (\text{Sales/Avg Assets}) \times (\text{Avg assets/Avg Equity})$$

$$\text{Avg assets/Avg Equity} = 1/(1-0.60) = 2.50$$

$$ROE = 0.05 \times 2 \times 2.50 = 0.25 \text{ i.e. } 25\%$$

(ii) → C: 30% increase

$$DOL = 2, DFL = 1.5 \text{ \& DTL} = 2 \times 1.5 = 3$$

$$\text{Increase in EPS} = \text{DTL} \times \text{change in sales quantity} = 3 \times 10\% = 30\%$$

(iii) → C: 3.68%

Forward margin (premium with respect to Bid Price)

$$= \frac{[(Rs. 49.85 - Rs. 48.95) \div 48.95] \times 12 \times 100}{100}$$

$$= 0.03677 \times 100 = 3.677 \text{ i.e. } 3.68\% \text{ per annum.}$$

(iv) → B: 7.95

$$P/E \text{ Ratio} = \frac{\text{Pay-out ratio}}{r - g_n} = \frac{0.6 (1.06)}{0.14 - 0.06} = \frac{0.636}{0.08} = 7.95$$

(v) → C: Rs. 51.71

$$\frac{(\text{Expected spot rate a year from now})}{(\text{Current Spot rate})} = \frac{(1 + \text{Expected inflation in home country})}{(1 + \text{Expected inflation in foreign country})}$$

$$\text{Or, Expected spot rate of US dollar a year hence} = (Rs. 50 \times 1.06) / 1.025 = Rs. 51.71$$

(vi) → A: Rs. 4,00,000

When Corporate taxes are considered, the value of the firm that is levered would be equal to the value of the unlevered firm increased by the tax shield associated with debt i.e.

$$V = \frac{O(1 - t_c)}{K} + t_c B$$

$$\therefore \text{Value of Mahati Ltd would exceed the value of Preeti Ltd. by only } t_c B \text{ i.e. } 0.4 \times 10,00,000 = Rs. 4,00,000.$$

(vii) → A: 7.60%

Applying the SML equation to Anusa Ltd's stock:

$$0.136 = R_f + 0.95 (14.00 - R_f) \Rightarrow R_f (1 - 0.95) = (0.136 - 0.95 \times 0.140)$$

$$\therefore R_f = \frac{0.136 - 0.133}{0.05} = 0.06 \text{ i.e. } 6\%$$

Hence, Risk Premium for Anusa Ltd's stock:

$$E(R_i) - R_f = 0.136 - 0.06 = 0.076 \text{ i.e. } 7.60\%$$

Answer to Question No. 1(b):

(i) → A (ii) → C (iii) → B (iv) → D (v) → D (vi) → B

Answer to Question No. 1(c):

(i) → False (ii) → False (iii) → True (iv) → True (v) → True.

Part B (75 Marks)**Question:**

2. (a) What are the criticisms of Capital Assets Pricing Model (CAPM)?
 (b) The capital structure of HILSON LTD. as on March 31, 2009 is given below:

5

	(Amount in Rs. Lakh)
Equity shares (Rs. 10 per share)	540
Reserves and surplus	360
8% Preference share (Rs. 100 per share)	180
10% Debentures (Rs. 100 per debenture)	180
11% Term Loans	540
	<u>1,800</u>

All these securities are traded in the Capital Market.

Recent prices are :

	Rs.
Ex - dividend equity share price	15
Ex - dividend 8% preference share price	120
Ex - interest 10% debenture market value	103

Additionally the following information are available:

Company's Equity Beta – 1.06

Yield on Long term treasury Bonds – 8%

Stock market risk premium – 6%

The debentures are redeemable after 3 years and interest is payable annually.

The Income-tax rate applicable to the company is 35%.

Required:

Using the information in the case, determine the Weighted Average Cost of Capital (WACC) of Hilson Ltd based on market value weights.

Note:

(i) Ignore flotation costs and transaction costs.

(ii) Extracted from the table of P.V:

Interest rate	8%	9%	10%	11%
PVIFA (3 years)	2.577	2.531	2.487	2.444
PVIF (3 years)	0.794	0.772	0.751	0.731

$$1+1+1+2+5=10$$

Answer to Question no 2(a):

The criticisms of Capital Assets Pricing Model (CAPM) are enumerated below:

- CAPM makes a number of assumptions that weaken its usefulness.
- The assumptions that there are no imperfections in the markets, there are no transaction costs and the Betas of shares do not change, are no realistic.
- It does not take into account that over a period of time, the market rate of return and the risk-free return can change.
- CAPM always considers a high level of diversification of portfolios, which may not be always possible.

Answer to Question no 2 (b) :

HILSON LTD.

Market values of the Component Sources of Capital

	Amount in Rs. Lakh
Equity Shares (540/Rs 10) x 15	810.00
8% Preference Shares (180/Rs 100) x 120	216.00
10% Debentures (180/Rs. 100) x 103	185.40
11% Term Loans	540.00
	<u>1751.40</u>

(i) Cost of Equity Capital :

$$K_e = R_f + \beta (K_m - R_f)$$

Where, $R_f = 8\%$ ($K_m - R_f$) = Market Risk Premium = 6% β = Equity Beta = 1.06.

$$\therefore K_e = 0.08 + 1.06 \times 0.06$$

$$= 14.36\%$$

(ii) Cost of Preference Shares : (K_p)

$$K_p = D / 120$$

$$= (8/120) \times 100 = 6.67\%$$

(iii) Cost of Debentures:Let, the pre-tax cost of 10% Debentures = K_d

$$\text{Then, } 103 = \frac{10}{(1+K_d)} + \frac{10}{(1+K_d)^2} + \frac{110}{(1+K_d)^3}$$

Year	Co.	PVIFA and PVIF		Total PV at	
		8%	9%	8%	9%
1-3	Rs. 10.00	2.577	2.531	Rs. 25.77	25.31
3	RS. 100.00	0.794	0.772	Rs. 79.40	77.20
				105.17	102.51

$$[(105.17-103) + [(105.17-103) + (103-102.51)]]$$

$$\text{By Interpolation : } K_d = 8 + [2.17/(2.17+0.49)]$$

$$= 8 + (2.17/2.66) = 8 + 0.82 = 8.82\%$$

(iv) Pre-tax Cost of Term Loan (K_d) = 11%

COMPUTATION OF WEIGHTED AVERAGE COST OF CAPITAL (WACC) AT MARKET VALUE WEIGHT

Sources	Weights	Cost (%) (Pre - tax)	After tax cost (%) (1 - 0.35)	Weighted Avg. Cost %
Equity shares	810/1751.40 = 0.463	14.36	14.36	6.65
8% Preference shares	216/1751.40 = 0.123	6.67	6.67	0.82
10% Debentures	185.40/1751.40 = 0.106	8.82	5.73	0.61
11% Term Loans	540/1751.40 = 0.308	11.00	7.15	2.20
	1.000			10.28

Hence, Weighted Average Cost of Capital (WACC) is -10.28%

Question:

3.(a) Does interest rate parity imply that interest rates are the same in all countries? Also explain why purchasing power parity might fail to hold. 3 + 2 = 5

(b) X COMPANY LTD. and Y COMPANY LTD. both wish to raise US 40M dollar's loan five years. X Company Ltd. has the choice of issuing fixed rate debt at 7.50% or floating rate debt at LIBOR + 25 basis points. On the other, Y Company Ltd., which has a lower credit rating, can issue fixed rate debt of the same maturity at 8.45% or floating rate at LIBOR + 37 basis points. X Company Ltd. prefers to issue floating rate debt and Y Company Ltd. prefers fixed rate debt with a lower coupon. City Bank is in the process of arranging an interest rate swap between these two companies.

X Company Ltd. negotiates to pay the bank a floating rate of LIBOR flat while the Bank agrees to pay X Company Ltd. a fixed rate of 7.60%. Y Company Ltd. agrees to pay the Bank a fixed rate of 7.75% while the Bank pays Y Company Ltd. a floating rate of LIBOR flat.

Required:

(i) With a schematic diagram, show how the swap deal can be structured.

(ii) What are interest savings by each company?

(iii) How much would City Bank receive?

$$4 + 5 + 1 = 10$$

Answer to Question No. 3 (a):

No, interest rate parity implies that an investment in the U.S. with the same risk as a similar investment in a foreign country should have the same return. Interest rate parity is expressed as :

$$\frac{F_{t-1}}{E_0} = \frac{1 + r_f}{1 + r_d}$$

Interest rate parity shows why a particular currency might be at a forward premium or discount. A currency is at a forward premium whenever domestic interest rates are higher than foreign interest rates. Discounts prevail if domestic interest rates are lower than foreign interest rates. If these conditions do not hold, then arbitrage will soon force interest rates back to parity.

Purchasing power parity assumes there are neither transaction costs nor regulations which limit the ability to buy and sell goods across different countries. In many cases, these assumptions are incorrect which explains why PPP is often violated. An additional complication, when empirically testing to see whether PPP holds, is that products in different countries are rarely identical. Frequently, there are real or perceived differences in quantity, which can lead to price difference in different countries.

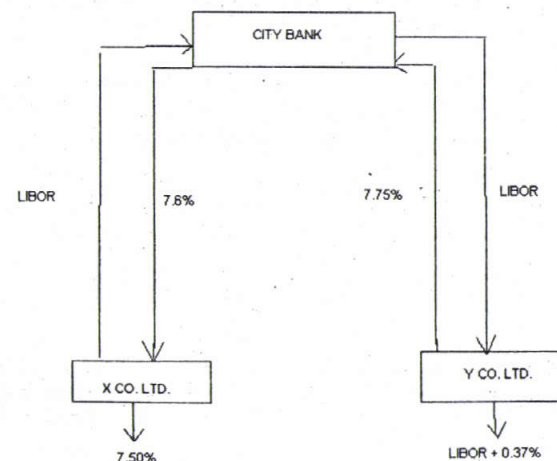
Answer to Question No. 3(b) :

(i) First let us tabulate the details to find the quality spread differential:

		Cost of fund to X Co Ltd & Y Co Ltd	
	Objective	Fixed Rate	Floating Rate
X Company Ltd	Floating	7.50% P.A.	LIBOR + 0.25%
Y Company Ltd	Fixed	8.45% P.A.	LIBOR + 0.37%
Difference on Risk Premium		0.95%	0.12%
Net differential			0.83%

The differential between two markets = 0.83%.

This needs to be shared between X Co Ltd, Y Co Ltd and City Bank.



-Schematic Diagram -

Economics of Swap deal:

	X Co Ltd	Bank	Y Co Ltd
Paid to Lender	(7.50%)	-	(LIBOR + 0.37%)
Bank Pays X Co. Ltd.	7.60%	7.60%	-
Y Co. Ltd pays Bank	-	7.75%	(7.75%)
X Co. Ltd Pays Bank	(LIBOR)	LIBOR	-
Bank Pays Y Co. Ltd	-	(LIBOR)	LIBOR
Net Position	(LIBOR - 0.10%)	0.15%	(8.12%)
Cost without SWAP	LIBOR+0.25%	-	8.45%
GAIN	0.35%	0.15%	0.33%

(ii) SAVINGS:

X Company Ltd: $(\text{LIBOR} + 0.25 + 7.60\% - 7.50\% - \text{LIBOR}) = 0.35\%$

Y Company Ltd: $(8.45\% + \text{LIBOR} - 7.75\% - \text{LIBOR} - 0.37\%) = 0.33\%$

(iii) Gain to CITY Bank : $\text{LIBOR} - \text{LIBOR} + 7.75\% - 7.60\% = 0.15\%$

Question:

- 4.(a) Comment on the emerging role of the financial Manager in India. 5
- (b) MINTEX LTD. gives you the following information for the year ended 31st March, 2009:
- Sales for the year totalled Rs.96,00,000. The company sells goods for cash only.
 - Cost of goods sold was 60% of sales. Closing inventory was higher than opening inventory by Rs. 20,000.
 - Tax paid amounted to Rs. 7,00,000. Other expenses totalled Rs. 21,45,000. Outstanding expenses on 31st March, 2008 and 31st March, 2009 totalled Rs. 82,000 and Rs. 91,000 respectively.
 - New machinery and furniture costing Rs. 10,50,000 in all were purchased. One equipment was sold for Rs. 20,000.
 - A right issue was made of 50,000 shares of Rs.10 each at a premium of Rs.3 per share. The entire money was received with application.
 - Dividends totalling Rs. 4,00,000 were distributed among the share holders.
 - Cash in hand and at Bank as at 31st March, 2008 and 31st March, 2009 totalled Rs. 2,10,000 and Rs. 4,14,000 respectively.

You are required to prepare cash flow statement for the year ended 31st March, 2009 using the direct method. 7+3=10

Answer to Question no 4 (a) :

The Job of the Financial Manager in India has become more important, Complex and demanding. More so in the wake of global competition, Technological developments, volatile financial prices, economic uncertainty, tax law changes, ethical concerns over financial dealings and shareholder activism.

The key challenges for a modern Finance Manager in India has changed from a mere Finance function of securing and managing funds to encompass the following; to name a few important areas:

- Investment Planning
- Financial Structure
- Mergers, Acquisitions and Restructuring
- Working Capital Management
- Performance Management
- Risk Management
- Treasury Management
- Portfolio Management
- Investor relations
- Corporate Governance etc.

Indian Finance Professionals are respected across the globe and to-day occupy top positions in several organizations including MNCs.

Answer to Question no 4 (b) :

MINTEX LTD.

CASH FLOW STATEMENT FOR THE YEAR ENDED 31ST MARCH, 2009

(Under Direct Method)

(Rs. In Lakh)

Cash Flow from Operating Activities:		
Cash receipts from customers	96.00	
Cash paid to suppliers and employees	(79.16)	
Cash inflow from operation	16.84	
Tax Paid	(7.00)	
Net Cash from Operating Activities		9.84
Cash Flow from Investing Activities:		
Purchase of Fixed Assets	(10.50)	
Proceeds from sale of Equipment	0.20	
Net cash from Investing Activities		(10.30)
Cash Flow from Financing Activities :		
Proceeds from issue of share capital	6.50	
Dividend paid	(4.00)	
Net Cash from Financing Activities		2.50
Net Increase in Cash and Cash equivalents		2.04
Cash and Cash equivalents as at 31 st March, 2008		2.10
Cash and Cash equivalents as at 31 st March, 2009 (Closing Balance)		4.14

Working Notes:

(i) Calculation of cash paid to suppliers and employees:

(Rs. in Lakh)	
Cost of sales, 60% of Rs 96.00 Lakh	57.60
Add: Expenses incurred	21.45
Outstanding expenses on 31.03.08	0.82
Excess of closing inventory over opening inventory	0.20
	80.07
Less: Outstanding Expenses on 31.03.2009	0.91
	79.16

(i) Proceeds from issue of share Capital:

Issue price of one share = Rs. 10 + Rs. 3 = Rs. 13

Proceeds from issue of 50,000 shares = 50000 x 13 = Rs. 6.50 lakh

Question:

- 5.(a) How does financial leverage increase the potential reward to the shareholders? 5
- (b) VEDIKA LTD. with a limited investment funds of Rs. 6,00,000 is evaluating the desirability of (five) investment proposals. Their profiles are summarized below: 5

Project	Investment (Rs.)	Annual cash flow (after tax) (Rs.)	Life (in Years)
M	1,00,000	36,000	10
N	2,00,000	1,00,000	4
O	2,40,000	60,000	8
P	3,00,000	80,000	16
Q	4,00,000	60,000	25

Project N and Q are mutually exclusive. The cost of funds is 10 per cent.

Required:

Find out the feasible combination of projects and rank them on the basis of Net Present Value (NPV).

Note: Extracted from the table:

Year	10	4	8	16	25
PVIFA at 10%	6.145	3.170	5.335	7.824	9.077

$$8 + 2 = 10$$

Answer to Question no 5 (a) :

Financial Leverage is based on the assumption that firm is to earn more on the assets that acquired by the use of Funds on which a Fixed Rate of interest/dividend is to be paid. Financial Leverage can be calculated as follows:

$$\text{Financial Leverage} = \text{EBIT} / \text{EBT}$$

The Financial Leverage increases the reward to the shareholders, as by increasing the debt, the organization enjoys the tax benefit as the interest on the debt capital is chargeable to the profit, thus reducing the tax burden. Again the Profit Before Tax (PBT) will be higher with lower or nil interest on debt, leading to high incidence of Corporate tax. The balance representing Profit After Tax (PAT) becomes proportionately lower when such PAT is related to the higher equity capital and lower or nil debt capital. As the shareholder's reward is the PAT earned against the volume of capital invested, the Financial Leverage increases the potential reward to the shareholders. Further, increase in Equity to finance low risk activities will lead to lower return for the shareholders. Companies having lower risk for cash flow can therefore enhance the shareholders' return by increasing the debt instead of Equity. The Net operating surplus represents PAT when related to the lower level of paid-up share capital shows a higher reward to the shareholders.

Answer to Question No.5 (b):

VEDIKA LTD

COMPUTATION OF NET PRESENT VALUE (NPV) FOR 5 PROJETS

Project	Investment (Rs.)	Cash Flow P.A.(after tax) (Rs.)	Life (Yrs)	PVIFA at 10%	Present Value (PV) (Rs.)	Net Present Value (NPV) (Rs.)
M	100,000	36000	10	6.145	221220	121220
N	200,000	100000	4	3.170	317000	117000
O	240,000	60000	8	5.335	320100	80100
P	300,000	80000	16	7.824	625920	325920
Q	400,000	60000	25	9.077	544620	144620

STATEMENT SHOWING FEASIBLE COMBINATION OF PROJECTS AND THEIR NPV.

Feasible Combination of	Investment (Rs.)	NPV (Rs.)	Rank
(i) MN & P	600,000	564140	1
(ii) MN & O	540,000	318320	4
(iii) O & P	540,000	406020	3
(iv) M & Q	500,000	265840	5
(v) N & P	500,000	442920	2
(vi) N & Q	600,000	261620	6

Comments:

The Feasible Combination of Projects, is Projects M, N & P with total investments of Rs. 600000 since it has highest NPV of Rs. 564140.

Question:

- 6.(a) Describe briefly the main features of venture capital. 5
- (b) The FERGUSON SYSTEMS was trading at Rs. 134 on April 3, 2009 and call option exercisable in three months time had a strike price of Rs. 130.

The following are the other parameters of the options:

- The annualized standard deviation in Ferguson Systems stock price over the previous year was 60%.
- The annualized Treasury Bill rate corresponding to this option life is 8%.

Requirements:

- Compute the value of a three month CALL option on the stock of Ferguson System using Block and Scholes model.
- What would be the value of PUT?
- If this CALL option is priced at Rs. 15 what investment strategy would you adopt?
- If this PUT option is available in the market at Rs.14 what investment strategy would you adopt?

Note: Extracted from the tables:

(1) Natural logarithms : $\ln(0.9701) = -0.0303$

$$\ln(1.0308) = 0.0303$$

(2) Value of e^x : $e^{-0.02} = 0.9802$, $e^{0.016} = 0.9841$

(3) For $N(X)$: where $X \geq 0$: $N(0.3177) = 0.6246$

$$N(0.0177) = 0.5071$$

Where $X \leq 0$: $N(-0.3177) = 0.3754$

$$N(-0.0177) = 0.4929$$

$$7+1+1+1=10$$

Answer to Question no 6 (a) :

Venture capital is the type of private Equity Capital typically provided by professional, outside investors to new, high risk, high return and high potential projects.

The Main features of Venture Capital are enumerated below:

- The Venture Capitalist is included to assume a high degree of risk in the expectation of earning a high rate of return.
- Venture Capital is basically equity finance in relatively new Companies when it is to early to go to the Capital market to raise fund.
- It is a long term investment in growth-oriented small/medium firms.
- There is a substantial degree of active involvement of the Venture Capital Institutions with the promoters of the Venture Capital undertakings.
- Venture Capital financing involves high risk-return spectrum.
- Venture Capital is not technology finance though technology finance may form a sub-set of venture capital financing.
- Providing Capital to person having managerial skills.
- Expecting a high return in the form of capital gain.

Answer to Question no 6 (b):

- Valuation of Call Option: (Using Black & Scholes model)

$$V_{CO} = V_s N(d_1) - E \cdot e^{-rt} N(d_2)$$

Where V_s = Current price of stock = Rs. 134

E = Exercise price = Rs. 130, r = Risk-free rate = 0.08

t = 0.25 yr

$$d_1 = \frac{\ln(V_s/E) + [r + 0.5 \sigma^2] \times t}{\sigma \sqrt{t}}$$

$$= \frac{\ln(134/130) + (0.08 + 0.5 \times 0.6^2) \times 0.25}{0.6 \sqrt{0.25}} = \frac{\ln(1.0308) + 0.065}{0.3}$$

$$= \frac{0.0303 + 0.065}{0.3} = 0.3177$$

$$d_2 = d_1 - \sigma \sqrt{t} = 0.3177 - 0.30 = 0.0177$$

$$N(d_1) = N(0.3177) = 0.6246, N(d_2) = N(0.0177) = 0.5071$$

Thus,

$$\text{Value of Call option } (V_{CO}) : V_s N(d_1) - E \cdot e^{-rt} N(d_2)$$

$$\text{Where, } e^{-rt} = e^{-0.08 \times 0.25} \Rightarrow e^{-0.02} = 0.9802$$

$$\therefore (134 \times 0.6246) - (130 \times 0.9802 \times 0.5071)$$

$$= 83.70 - 64.62 = \text{Rs. } 19.08$$

- Value of Put (V_{PO}) = $C + \text{PV of } E - S_0$

$$= \text{Rs. } [19.08 + (130 \times 0.9802) - 134]$$

$$= 19.08 + 127.43 - 134 \Rightarrow 12.51 = \text{Rs. } 12.51$$

STRATEGY : (iii) & (iv)

Option	Actual Option Price (Rs.)	Fair Option Price (Rs.)	Valuation	Decision
(iii) CALL	15	19.08	Under	Buy Call Option
(iv) PDT	14	12.51	Over	Sell Put Option

Question:

- What are the commonly employed measures of financial performance? 5
- MULTIFORUM LTD. is expected to grow at a higher rate for four years; thereafter the growth rate will fall and stabilise at a lower level. The following information is available:

Base year (year = 0) information

Revenues	Rs. 1,500 lakh
EBIT	Rs.250 lakh
Capital Expenditure	Rs. 175 lakh
Depreciation	Rs. 125 lakh
Working capital as a percentage of revenues	25%
Corporate tax rate (for all time)	30%
Paid-up equity capital (Rs. 10 par)	Rs. 200 lakh
Market value of debt	Rs. 600 lakh

Inputs for the High Growth period

Length of high growth phase	4 years
Growth rate in revenues, depreciation, EBIT and capital expenditure	20%
Working capital as a per cent of revenues	25%
Cost of debt (post - tax)	9.10%
Debt-equity ratio etc.	1:1
Cost of equity	18.90%

Inputs for the stable period

Expected growth rate in revenues and EBIT	10%
Working capital as a percentage of revenues	25%
Cost of debt (post-tax)	8.5%
Debt-equity ratio etc.	2:3
Cost of equity	16%

Requirements:

- (i) What is the value of Multiforum Ltd. in terms of forecasted free cash flows?
(ii) Calculate the value of shareholders.

Note: Extracted from the table of present value of Re 1:

Year	0	1	2	3	4
PVIF at 13%	1.000	0.885	0.783	0.693	0.613
PVIF at 14%	1.000	0.877	0.769	0.675	0.592

$$(5+4)+1=10$$

Answer to Question no 7 (a):

The Commonly employed measures of financial performance are:

- Return on Capital employed
- Return on Investment
- Return on Equity
- Return on Sales
- PBDIT, PBIT, PAT
- Net operating profit after tax
- Cash Flow
- Free cash flow
- Economic Value Added
- Residual Income
- Economic profit
- Earnings per share

- Dividend Yield
- Market Capitalization
- Total Shareholder return
- Market Value Added

Answer to Question No. 7(b):

MULTIFORUM LTD.

Calculation of weighted Average Cost of Capital (WACC) ::

High growth period:

$$\begin{aligned} \text{WACC} &= 0.50 \times 0.189 + 0.50 \times 0.091 \\ &= 0.0945 + 0.0455 = 0.14 \text{ i.e. } 14\% \end{aligned}$$

Stable growth period:

$$\begin{aligned} \text{WACC} &= 0.40 \times 0.085 + 0.60 \times 0.16 \\ &= 0.034 + 0.096 = 0.13 \text{ i.e. } 13\% \end{aligned}$$

- (i) The Forecasted Free Cash Flow during high Growth period and the Terminal Year are given below:

FORCASTED FREE CASH FLOW

YEAR	1	2	3	4	Terminal year
1. Revenues	1800	2160	2592	3110.40	3421.44
2. EBIT	300	360	432	518.40	570.24
3. EBIT (1 - tax) (1 - 0.30)	210	252	302.40	362.88	399.17
4. Capital Expenditure - Depreciation	60	72	86.40	103.70	—
5. Increase in Working Capital (Δ WC)	75	90	108	129.60	77.76
[3 - 4 - 5]					
Free Cash Flow (FCF)	75	90	108	129.60	321.41

- (ii) Present Value of the FCF during the explicit forecast period is:

$$75 \times 0.877 + 90 \times 0.769 + 108 \times 0.675 + 129.6 \times 0.592$$

$$= \text{Rs. } 284.61 \text{ lakh}$$

Present value of the Terminal Value:

$$[321.41 / (0.13 - 0.10)] \times 0.592 = \text{Rs. } 6342.49 \text{ lakh}$$

$$\begin{aligned} \text{The value of Multi Forum Ltd} &= \text{Rs. } 284.61 + 6342.49 \\ &= \text{Rs. } 6627.10 \text{ lakh} \end{aligned}$$

- (iii) Value of Share holders:

$$= \text{Rs. } 6627.10 - 600.00 = \text{Rs. } 6027.10 \text{ lakh}$$

Question:

8. Write short notes on any three out of the following:

- (a) Financial Planning Environment;

- | | |
|--------------------------------|---|
| (b) Leveraged Buy-outs (LBOs); | 5 |
| (c) Balanced Scorecards; | 5 |
| (d) Bill of Entry. | 5 |

Answer to Question no 8 :**SHORT NOTES****(a) FINANCIAL PLANNING ENVIRONMENT :**

The Financial Planning Environment is becoming more and more dynamic and has been undergoing a sea change in the last few years, mainly on account of globalization, and better investor awareness. The initiatives of regulators such as SEBI have only contributed to bring about better disclosure, transparency and governance.

This is governed by :

1. Investors
2. Legal requirements
3. Lenders such as financial Institutions and Banks
4. Tax Laws
5. Competitors
6. External influences such as foreign exchange movements
7. Regulations such as the RBI, SEBI etc.

All these call for a more demanding and adaptive planning system that is responsive to a competitive business environment.

(b) LEVERAGED BUY – OUTS (LBOs) :

A popular technique that was widely used during the 1980's to make acquisition in the Leverage Buy – outs which involves the use of a large amount of Debt to purchase a firm.

While some leveraged buy-outs involve a company in its entirety, most involve a business unit of a company. After the buyout the company invariably becomes a Private Company. A large part of the borrowing is secured by the firms assets and the lenders, because of a high risk take a portion of the firm equity. Junk bonds have been routinely used to raise amounts of debt needed to finance the LBO transaction.

The success of the entire operation depends on their ability to improve the performance of the unit contain its business risk, exercise cost controls and liquidate disposable assets. If they fail to do so, the high fixed financial can jeopardize the venture.

An attractive candidate for acquisition through leveraged buy out should possess three basic attributes.

1. It must have a good position in its industry with a solid profit history and reasonable expectation of growth.
2. The firm should have a relatively low level of debt and a high level of bankable assets that can be used as loan collateral.
3. It must have a stable and predictable cash flows that are adequate to meet interest and principal payment on the debt and provide adequate working capital.

(c) Balanced Scorecard:

Balanced Scorecard is a set of measure that gives top management a fast but comprehensive view of the organizational unit. "It is an approach to the provision of information to management to assist strategic policy formulation and achievement. It emphasizes the need to provide the user with a set of information, which addresses all relevant areas of performance in an objective and unbiased fashion." The need to link financial and non-financial measures of performance and identify key performance measures led to the emergence of the "Balanced Scorecard."

The inclusion of non-financial information alongside financial information has become known as the "Balanced Scorecard" approach.

[Kaplan and Norton – (1992)]

It allows managers to look at business from four different perspective by seeking to provide answers to the following four basic questions:

- (1) How do customers see us? (Customer perspective)
- (2) What must we excel at? (Internal business perspective)
- (3) Can we continue to improve and create value? (Learning and growth perspective)
- (4) How do we look to shareholders? (Financial perspective)

The aim of scorecard is to provide a comprehensive framework for translating company's strategic objectives into a coherent set of performance measures.

(d) BILL OF ENTRY :

This is a very vital and important document which every importer has to submit under Section 46. The Bill of Entry should be in prescribed form.

Bill of Entry should be submitted in quadruplicate – original and duplicate for customs, triplicate for the importer and fourth copy is meant for the bank for making remittances.

A BIN (Business Identification Number) is allocated to each importer and exporter w.e.f. 1.4.20010

It is a 15 digit code based on PAN of Income Tax (PAN is a 10 digit code). [Earlier as EC (Import Export code) number issued by DGFT was required to be mentioned on Bill of Entry]