

PAPER – 2 : MANAGEMENT ACCOUNTING AND FINANCIAL ANALYSIS

Question No. 1 is compulsory. Answer any four from the rest.

Figures in the margin indicate marks allotted to each question.

Working notes should form part of the answer.

Question 1

- (a) Following are the estimates of the net cash flows and probability of a new project of M/s X Ltd.:

	Year	P=0.3	P=0.5	P=0.2
Initial investment	0	4,00,000	4,00,000	4,00,000
Estimated net after tax cash inflows per year	1 to 5	1,00,000	1,10,000	1,20,000
Estimated salvage value (after tax)	5	20,000	50,000	60,000

Required rate of return from the project is 10%. Find:

- (i) the expected NPV of the project.
- (ii) the best case and the worst case NPVs.
- (iii) the probability of occurrence of the worst case if the cash flows are
 - (a) perfectly dependent overtime
 - (b) independent overtime.
- (iv) Standard deviation and coefficient of variation assuming that there are only three streams of cash flow, which are represented by each column of the table with the given probabilities.
- (v) Coefficient of variation of X Ltd. on its average project which is in the range of 0.95 to 1.0. If the coefficient of variation of the project is found to be less riskier than average, 100 basis points are deducted from the Company's cost of Capital

Should the project be accepted by X Ltd ?

- (b) What is a re-financing? Briefly explain indicating at least two institutions which offer such re-financing. (16+4=20 Marks)

Answer

- (a) (i) Expected cash flows:-

Year		Net cash flows	P.V.	PV. @ 10%
0	$(4,00,000 \times 1)$	= (-)4,00,000	1.000	(-)4,00,000
1 to 4	$(1,00,000 \times 0.3 + 1,10,000 \times 0.5 + 1,20,000 \times 0.2)$	= 1,09,000	3.169	3,45,421
5	$[1,09,000 + (20,000 \times 0.3 + 50,000 \times 0.5 + 60,000 \times 0.2)]$	= 1,52,000	0.621	94,392
		NPV=		<u>39,813</u>

(ii) ENPV of the worst case

$1,00,000 \times 3.790 = \text{Rs.} 3,79,000$ (Students may have 3.791 also the values will change accordingly)

$20,000 \times 0.621 = \text{Rs.} 12,420/-$

$\text{ENPV} = (-)4,00,000 + 3,79,000 + 12,420 = (-)\text{Rs.} 8,580/-$

ENPV of the best case

$\text{ENPV} = (-)4,00,000 + 1,20,000 \times 3.79 + 60,000 \times 0.621 = \text{Rs.} 92,060/-$

(iii) (a) Required probability = 0.3

(b) Required probability = $(0.3)^5 = 0.00243$

(iv) The base case NPV = $(-)4,00,000 + (1,10,000 \times 3.79) + (50,000 \times 0.621)$
 $= \text{Rs.} 47,950/-$

$\text{ENPV} = 0.30 \times (-) 8580 + 0.5 \times 47950 + 92060 \times 0.20$

$= \text{Rs.} 39,813/-$ Therefore,

$$\sigma \text{ENPV} = \sqrt{0.3(-8580 - 39,813)^2 + 0.5(47950 - 39,813)^2 + 0.2(92,060 - 39,813)^2}$$

$= \text{Rs.} 35,800/-$

Therefore, $\text{CV} = 35,800/39,813 = 0.90$

(v) Risk adjusted cost of capital of X Ltd. = $10\% - 1\% = 9\%$.

NPV

Year	Expected net cash flow	PV @ 9%	
0	(-) 4,00,000	1.000	(-)4,00,000
1 to 4	1,09,000	3.239	3,53,051
5	1,52,000	0.650	<u>98,800</u>
		ENPV =	<u>51,851</u>

Therefore, the project should be accepted.

(b) RE-FINANCING

"Re-financing" is a process by which a large financial institution provides funds or reimburses funds to another institution to help development, relief or other similar causes identified as the purpose of the former. It can also, in another way, be described as a wholesale distribution of financial assistance to a retailing institution. Often, governmental support or subsidized funding is reached to the ultimate beneficiaries, through such channel.

National Bank for Agriculture and Rural Development (NABARD) is a governmental organization established with the primary objective of financing the farm sector; it is an arm through which government extends certain concessions/privileges to the farming community. NABARD does not deal with farmers directly but deals with many banks such as scheduled and nationalized banks providing re-financing for quite a few schemes intended for the benefit of the agricultural sector. This is one example.

Small Industries Development Bank of India (SIDBI) is another governmental organization whose objective is to assist the development of small industries. It is another institution which is engaged in refinancing activities; it funds a few schemes intended for SSIs through scheduled/nationalized banks.

Question 2

- (a) ABC Ltd. has 50,000 outstanding shares. The current market price per share is Rs.100 each. It hopes to make a net income of Rs.5,00,000 at the end of current year. The Company's Board is considering a dividend of Rs.5 per share at the end of current financial year. The company needs to raise Rs.10,00,000 for an approved investment expenditure. The company belongs to a risk class for which the capitalization rate is 10%. Show, how does the M-M approach affect the value of firm if the dividends are paid or not paid.
- (b) Mr. X on 1.7.2000, during the initial offer of some Mutual Fund invested in 10,000 units having face value of Rs.10 for each unit. On 31.3.2001 the dividend operated by the M.F. was 10% and Mr. X found that his annualized yield was 153.33%. On 31.12.2002, 20% dividend was given. On 31.3.2003 Mr. X redeemed all his balance of 11,296.11 units when his annualized yield was 73.52%. What are the NAVs as on 31.3.2001, 31.12.2002 and 31.3.2003?
- (c) How tax considerations are relevant in the context of a dividend decision of a company?
- (d) Explain briefly the advantages of holding securities in 'demat' form rather than in physical form. (6+6+4+4= 20 Marks)

Answer

- (a) When dividends are paid

$$100 = (5 + P_1)/(1 + 0.10)$$

Therefore, $P_1 = \text{Rs.}105/-$.

Value of firm

$$= \text{Rs.}([50,000/- + 7,50,000/-/105/-] \times 105/-) - 10,00,000/- + 5,00,000/-/1.10$$

$$= \text{Rs.}(60,00,000/- - 5,00,000/-)/1.10$$

$$= \text{Rs.}50,00,000/-$$

When dividend is not paid

$$100 = 1/1.1 \times P_1$$

Therefore, $P_1 = \text{Rs.}110/-$.

Value of firm

$$= \text{Rs.}([50,000/- + (5,00,000/-/110/-) \times 110/-] - 10,00,000/- + 5,00,000/-)/1.10$$

$$= \text{Rs.}(60,00,000/- - 5,00,000/-) / 1.10$$

$$= \text{Rs.}50,00,000/-$$

M.M. approach indicates that the value of the firm in both the situations will be the same.

- (b) Yield for 9 months = $(153.33 \times 9/12) = 115\%$

$$\text{Amount receivable as on 31.03.2001} = 1,00,000/- + (1,00,000 \times 115\%)$$

$$= \text{Rs.}2,15,000/-$$

$$\text{Therefore, NAV as on 31.03.2001} = (2,15,000 - 10,000)/10,000 = \text{Rs.}20.50$$

$$\text{Therefore, units as on 31.03.2001} = 10487.80 \text{ i.e., } (2,15,000/20.50)$$

$$\text{Dividend as on 31.03.2002} = 10,487.80 \times 10 \times 0.2 = \text{Rs.}20,975.60$$

$$\text{Therefore, NAV as on 31.03.2002} = 20,975.6/(11,296.11 - 10,487.80)$$

$$= \text{Rs.}25.95$$

$$\text{NAV as on 31.03.2003} = 1,00,000 + (1,00,000 \times 73.52\% \times \frac{33}{12})/11296.11$$

$$= \text{Rs.}26.75$$

- (c) DIVIDEND DECISION AND TAX CONSIDERATIONS

Traditional theories might have said that distribution of dividend being from after-tax profits, tax considerations do not matter in the hands of the payer-company. However, with the arrival of Corporate Dividend Tax on the scene in India, the position has changed. Since there is a clear levy of such tax with related surcharges, companies have a consequential cash outflow due to their dividend decisions which has to be dealt with as and when the decision is taken.

In the hands of the investors too, the position has changed with total exemption from tax being made available to the receiving-investors. In fact, it can be said that such exemption from tax has made the equity investment and the investment in Mutual Fund Schemes very attractive in the market.

Broadly speaking Tax consideration has the following impacts on the dividend decision of a company:

Before introduction of dividend tax: Earlier, the dividend was taxable in the hands of investor. In this case the shareholders of the company are corporates or individuals who are in higher tax slab, it is preferable to distribute lower dividend or no dividend. Because dividend will be taxable in the hands of the shareholder @ 30% plus surcharges while long term capital gain is taxable @ 10%. On the other hand, if most of the

shareholders are the people who are in no tax zone, then it is preferable to distribute more dividend.

We can advise that before distributing dividend, company should look at the shareholding pattern.

After introduction of dividend tax: Dividend tax is payable @ 12.5% - surcharge + education cess, which is effectively near to 14%. Now if the company were to distribute dividend, shareholder will indirectly bear a tax burden of 14% on their income. On the other hand, if the company were to provide return to shareholder in the form of appreciation in market price – by way of Bonus shares – then shareholder will have a reduced tax burden. For securities on which STT is payable, short term capital gain is taxable @ 10% while long term capital gain is totally exempt from tax.

Therefore, we can advise that if the company pays more and more dividend (while it still have reinvestment opportunities) then to get same after tax return shareholders will expect more before tax return and this will result in lower market price per share.

(d) ADVANTAGES OF HOLDING SECURITIES IN 'DEMAT' FORM

The Depositories Act, 1996 provides the framework for the establishment and working of depositories enabling transactions in securities in scripless (or demat) form. With the arrival of depositories on the scene, many of the problems previously encountered in the market due to physical handling of securities have been to a great extent minimized. In a broad sense, therefore, it can be said that 'dematting' has helped to broaden the market and make it smoother and more efficient.

From an individual investor point of view, the following are important advantages of holding securities in demat form:

- ◆ It is speedier and avoids delay in transfers.
- ◆ It avoids lot of paper work.
- ◆ It saves on stamp duty.

From the issuer-company point of view also, there are significant advantages due to dematting, some of which are:

- ◆ Savings in printing certificates, postage expenses.
- ◆ Stamp duty waiver.
- ◆ Easy monitoring of buying/selling patterns in securities, increasing ability to spot takeover attempts and attempts at price rigging.

Question 3.

- (a) XYZ Ltd. is an export oriented business house based in Mumbai. The Company invoices in customers' currency. Its receipt of US \$ 1,00,000 is due on September 1, 2005.

Market information as at June 1, 2005.

Exchange Rates		Currency Futures	
US \$/Rs.		US \$/Rs.	Contract size
Spot	0.02140	June	0.02126
1 Month Forward	0.02136	September	0.02118
3 Months Forward	0.02127		
		Initial Margin	Interest Rates in India
June		Rs.10,000	7.50%
September		Rs.15,000	8.00%

On September 1, 2005 the spot rate US \$/Rs. is 0.02133 and currency future rate is 0.02134. Comment which of the following methods would be most advantageous for XYZ Ltd.

- (a) Using forward contract
- (b) Using currency futures
- (c) Not hedging currency risks.

It may be assumed that variation in margin would be settled on the maturity of the futures contract.

- (b) Spot rate 1 US \$ = Rs.48.0123

180 days Forward rate for 1 US \$ = Rs.48.8190

Annualised interest rate for 6 months – Rupee = 12%

Annualised interest rate for 6 months – US \$ = 8%

Is there any arbitrage possibility? If yes how an arbitrageur can take advantage of the situation, if he is willing to borrow Rs.40,00,000 or US \$83,312.

- (c) ABC Ltd. is considering a project in US, which will involve an initial investment of US \$ 1,10,00,000. The project will have 5 years of life. Current spot exchange rate is Rs.48 per US \$. The risk free rate in US is 8% and the same in India is 12%. Cash inflow from the project are as follows:

Year	Cash inflow
1	US \$ 20,00,000
2	US \$ 25,00,000
3	US \$ 30,00,000
4	US \$ 40,00,000
5	US \$ 50,00,000

Calculate the NPV of the project using foreign currency approach. Required rate of return on this project is 14%. (10+5+5 = 20 Marks)

Answer

(a)

Receipts using a forward contract = $1,00,000/0.02127$ = Rs.47,01,457

Receipts using currency futures

The number of contracts needed is $(1,00,000/0.02118)/4,72,000 = 10$

Initial margin payable is $10 \times \text{Rs.}15,000 = \text{Rs.}1,50,000$

On September 1 Close at 0.02133

Receipts = $\text{US\$}1,00,000/0.02133$ = 46,88,233

Variation Margin = $[(0.02134 - 0.02118) \times 10 \times 472000/-]/0.02133$

OR $(0.00016 \times 10 \times 472000)/0.02133 = 755.2/0.02133$ 35,406

47,23,639

Less: Interest Cost – $1,50,000 \times 0.08 \times 3/12$ Rs.3,000

Net Receipts Rs.47,20,639

Receipts under different methods of hedging

Forward contract Rs.47,01,457

Futures Rs.47,20,639

No hedge

US\$ 1,00,000/0.02133 Rs.46,88,233

The most advantageous option would have been to hedge with futures.

(b) Spot Rate = $\text{Rs.}4000000/- / 83312 = 48.0123$

Forward Premium on US\$ = $[(48.8190 - 48.0123)/48.0123] \times 12/6 \times 100$

= 3.36%

Interest rate differential = 12% - 8%

= 4% (Negative Interest rate differential)

Since the negative Interest rate differential is greater than forward premium there is a possibility of arbitrage inflow into India.

The advantage of this situation can be taken in the following manner:

1. Borrow US\$ 83312 for 6 months

Amount to be repaid after 6 months

= US \$ 83312 $(1 + 0.08 \times 6/12) = \text{US\$}86644.48$

2. Convert US\$ 83312 into Rupee and get the principal i.e. Rs.40,00,000

Interest on Investments for 6 months – Rs.4000000/- x 0.06

= Rs.240000/-

Total amount at the end of 6 months = Rs.(4000000 + 240000/-)

= Rs.4240000/-

Converting the same at the forward rate

= Rs.4240000/- / Rs.48.8190=

= US\$ 86851.43

Hence the gain is US \$ (86851.43 – 86644.48) = US\$ 206.95OR

Rs.10103 i.e., (\$206.95 x Rs.48.8190)

- (c) $(1 + 0.12)(1 + \text{Risk Premium}) = (1 + 0.14)$

Or, $1 + \text{Risk Premium} = 1.14/1.12 = 1.0179$

Therefore, Risk adjusted dollar rate is $= 1.0179 \times 1.08 = 1.099 - 1 = 0.099$

Calculation of NPV

Year	Cash flow (Million) US\$	PV Factor at 9.9%	P.V.
1	2.00	0.910	1.820
2	2.50	0.828	2.070
3	3.00	0.753	2.259
4	4.00	0.686	2.744
5	5.00	0.624	<u>3.120</u>
			12.013
		Less: Investment	<u>11.000</u>
		NPV	<u>1.013</u>

Therefore, Rupee NPV of the project is = Rs. (48 x 1.013) Million

= Rs.48.624 Million

Question 4

- (a) From the following data for certain stock, find the value of a call option:

Price of stock now	=	Rs.80
Exercise price	=	Rs.75
Standard deviation of continuously compounded annual return	=	0.40
Maturity period	=	6 months
Annual interest rate	=	12%

Given

Number of S.D. from Mean, (z)	Area of the left or right (one tail)
0.25	0.4013
0.30	0.3821
0.55	0.2912
0.60	0.2578

$$e^{0.12 \times 0.05} = 1.0060$$

$$\ln 1.0667 = 0.0645$$

- (b) Following are the details of cash inflows and outflows in foreign currency denominations of MNP Co. an Indian export firm, which have no foreign subsidiaries:

Currency	Inflow	Outflow	Spot rate	Forward rate
US \$	4,00,00,000	2,00,00,000	48.01	48.82
French Franc (FFr)	2,00,00,000	80,00,000	7.45	8.12
U.K. £	3,00,00,000	2,00,00,000	75.57	75.98
Japanese Yen	1,50,00,000	2,50,00,000	3.20	2.40

- (i) Determine the net exposure of each foreign currency in terms of Rupees.
(ii) Are any of the exposure positions offsetting to some extent?
- (c) X Co., Ltd., invested on 1.4.2005 in certain equity shares as below:

Name of Co.	No. of shares	Cost (Rs.)
M Ltd.	1,000 (Rs.100 each)	2,00,000
N Ltd.	500 (Rs.10 each)	1,50,000

In September, 2005, 10% dividend was paid out by M Ltd. and in October, 2005, 30% dividend paid out by N Ltd. On 31.3.2006 market quotations showed a value of Rs.220 and Rs.290 per share for M Ltd. and N Ltd. respectively.

On 1.4.2006, investment advisors indicate (a) that the dividends from M Ltd. and N Ltd. for the year ending 31.3.2007 are likely to be 20% and 35%, respectively and (b) that the probabilities of market quotations on 31.3.2007 are as below:

Probability factor	Price/share of M Ltd.	Price/share of N Ltd.
0.2	220	290
0.5	250	310
0.3	280	330

You are required to:

- (i) Calculate the average return from the portfolio for the year ended 31.3.2006;

- (ii) Calculate the expected average return from the portfolio for the year 2006-07; and
 (iii) Advise X Co. Ltd., of the comparative risk in the two investments by calculating the standard deviation in each case. (8+4+8 = 20 Marks)

Answer

- (a) Applying the Black Scholes Formula,

Value of the Call option now:

The Formula $C = SN(d_1) - K e^{(-rt)} N(d_2)$

$$d_1 = \frac{\ln(S/K) + (r + \sigma^2 / 2)t}{\sigma \sqrt{t}}$$

$$d_2 = d_1 - \sigma \sqrt{t}$$

Where,

C = Theoretical call premium

S = Current stock price

t = time until option expiration

K = option striking price

r = risk-free interest rate

N = Cumulative standard normal distribution

e = exponential term

σ = Standard deviation of continuously compounded annual return.

ln = natural logarithm

$$d_1 = \frac{\ln(1.0667) + (12\% + (0.08)^2 / 2) \times 0.40}{0.08 \sqrt{0.40}}$$

$$= \frac{0.0645 + (0.08)^2 \times 0.20}{0.08 \times 0.6325}$$

$$= \frac{0.1645}{0.2828}$$

$$= 0.5817$$

$$d_2 = 0.5817 - 0.2828$$

$$= 0.2989$$

$$Nd_1 = N(0.5817)$$

$$Nd_2 = N(0.2989)$$

$$\text{Price} = S_0 N(d_1) - \frac{E}{e^{rt}} \times N(d_2)$$

$$= (80 \times Nd_1) - 75/[1.0060 \times N[d_2]]$$

Value of option

$$= 80 Nd_1 - \frac{75}{1.0060 \times Nd_2}$$

$$Nd_1 = N(0.5817)$$

$$= 0.7190 + 0.000578$$

$$= 0.7195$$

$$Nd_2 = N(0.2989)$$

$$= 0.6141 + 0.003382$$

$$= 0.6175$$

$$\text{Price} = 80 \times 0.7195 - \frac{75}{1.0060 \times 0.6175}$$

$$= 57.56 - 74.55 \times 0.6175$$

$$= 57.56 - 46.04$$

$$= \text{Rs.}11.52$$

(b) (i) Net exposure of each foreign currency in Rupees

	Inflow	Outflow	Net Inflow	Spread	Net Exposure
	(Millions)	(Millions)	(Millions)		(Millions)
US\$	40	20	20	0.81	16.20
FFr	20	8	12	0.67	8.04
UK£	30	20	10	0.41	4.10
Japan Yen	15	25	-10	-0.80	8.00

(ii) The exposure of Japanese yen position is being offset by a better forward rate

(c)

Calculation of return on portfolio for 2005-06

(Calculation in
Rs./share

	M	N
Dividend received during the year	10	3
Capital gain/loss by 31.03.06		

Market value by 31.03.06	220	290	
Cost of investment	200	300	
Gain/loss	20	(-)10	
Yield	30	(-)7	
Cost	200	300	
% return	15%	(-)2.33%	
Weight in the portfolio	57	43	
Weighted average return			7.55%

Calculation of estimated return for 2006-07

Expected dividend	20	3.5	
Capital gain by 31.03.07			
$(220 \times 0.2) + (250 \times 0.5) + (280 \times 0.3) - 220 = (253 - 220)$	33		
$(290 \times 0.2) + (310 \times 0.5) + (330 \times 0.3) - 290 = (312 - 290)$		22	
Yield	53	25.5	
*Market Value 01.04.06	220	290	
% return	24.09%	8.79%	
*Weight in portfolio $(1,000 \times 220) : (500 \times 290)$	60.3	39.7	
Weighted average (Expected) return			18.02%

(*The market value on 31.03.06 is used as the base for calculating yield for 06-07)

Calculation of Standard deviation.

M Ltd.

Expected market value	Expected gain	Expected dividend	Expected yield	Deviations	Square of deviations	Probability factor	Sq. of d x prob.
220	0	20	20	-33	1089	0.2	217.80
250	30	20	50	-3	9	0.5	4.50
280	60	20	80	27	729	0.3	218.70
							441.00
Standard deviation						21	

N Ltd.

Expected market value	Expected gain	Expected dividend	Expected yield	Deviations	Square of deviations	Probability factor	Sq. of d x prob.
290	0	3.5	3.5	-22	484	0.2	96.80
310	20	3.5	23.5	-2	4	0.5	2.00
330	40	3.5	43.5	18	324	0.3	97.20
							196.00
Standard deviation						14	

Share of company M Ltd. is more risky as the S.D. is more than company N Ltd.

Question 5

- (a) AB Ltd., is planning to acquire and absorb the running business of XY Ltd. The valuation is to be based on the recommendation of merchant bankers and the consideration is to be discharged in the form of equity shares to be issued by AB Ltd. As on 31.3.2006, the paid up capital of AB Ltd. consists of 80 lakhs shares of Rs.10 each. The highest and the lowest market quotation during the last 6 months were Rs.570 and Rs.430. For the purpose of the exchange, the price per share is to be reckoned as the average of the highest and lowest market price during the last 6 months ended on 31.3.06.

XY Ltd.'s Balance Sheet as at 31.3.2006 is summarised below:

	Rs. lakhs
Sources	
Share Capital	
20 lakhs equity shares of Rs.10 each fully paid	200
10 lakhs equity shares of Rs.10 each, Rs.5 paid	50
Loans	100
Total	350
Uses	
Fixed Assets (Net)	150
Net Current Assets	200
	350

An independent firm of merchant bankers engaged for the negotiation, have produced the following estimates of cash flows from the business of XY Ltd.:

Year ended	By way of	Rs. lakhs
31.3.07	after tax earnings for equity	105
31.3.08	do	120

31.3.09	do	125
31.3.10	do	120
31.3.11	do	100
	terminal value estimate	200

It is the recommendation of the merchant banker that the business of XY Ltd. may be valued on the basis of the average of (i) Aggregate of discounted cash flows at 8% and (ii) Net assets value. Present value factors at 8% for years

1-5:	0.93	0.86	0.79	0.74	0.68
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You are required to:

- (i) Calculate the total value of the business of XY Ltd.
 - (ii) The number of shares to be issued by AB Ltd.; and
 - (iii) The basis of allocation of the shares among the shareholders of XY Ltd.
- (b) The 6-months forward price of a security is Rs.208.18. The borrowing rate is 8% per annum payable with monthly rests. What should be the spot price?
- (c) An Indian company is desirous of obtaining foreign technology. Write a brief note explaining the important financial considerations it should take into account in this context. (12+4+4= 20 Marks)

Answer

- (a) Price/share of AB Ltd. for determination of number of shares to be issued:

(Rs.570 + Rs.430)/2	Rs.	500
Value of XY Ltd based on future cash flow capitalization (105x0.93)+(120x0.86)+(125x0.79)+(120x0.74)x(300x0.68)	Rs. lakhs	592.40
Value of XY Ltd based on net assets	Rs. lakhs	250.00
Average value (592.4+250)/2		421.20
No. of shares in AB Ltd to be issued 42120000/500	Nos.	84240
Basis of allocation of shares		
Fully paid equivalent shares in XY Ltd. (20+5) lakhs		2500000
Distribution to fully paid shareholders 84240x20/25		67392
Distribution to partly paid shareholders 84240-67392		16848

(b) Calculation of spot price

The formula for calculating forward price is:

$$A = P (1+r/n)^{nt}$$

Where

- A = Forward price
- P = Spot Price
- r = rate of interest
- n = no. of compoundings
- t = time

Using the above formula,

$$208.18 = P (1 + 0.08/12)^6$$

$$\text{Or } 208.18 = P \times 1.0409$$

$$P = 208.18/1.0409 = 200$$

Hence, the spot price should be Rs.200.

(c) FINANCIAL CONSIDERATIONS WHILE BUYING FOREIGN TECHNOLOGY

- ◆ Lump sum vs. royalty: Whether to pay for the technology in a lump sum front-end or as royalty over a period of years, is an important issue. Advantages of lump sum payment are (a) the amount will become certain (b) the amount can be discounted forward and therefore be less; (c) the forex exposure risk is avoided; (d) it provides an opportunity to reduce the per unit cost of technology by maximizing sales. The main advantage of royalty payment is (a) it ensures that the sales benefit is realized before technology payment accrues; (b) it provides easy instalments for funding;

The advantages of lump sum model becomes the disadvantages of the royalty model and vice versa. It is for the organization to choose what is best under its circumstances.

- ◆ Tax issues: Deduction of tax at source is mandatory. This should be important from the receipt's point of view and should be made clear to them. If it is a lump sum upfront payment, tax also could be certain; whereas, in protracted royalty payment, there is a chance of tax uncertainty.

As to allowability in the hands of the payer, there have been various case laws and it would be advisable for the payer to obtain beforehand expert opinion as to how to plan its tax shield in the best manner possible.

- ◆ Government clearance: Automatic permission will be given for foreign technology agreements upto certain limits – currently, USD 2 million or royalty at 5% for domestic sales and 8% for export sales. In other cases approval will have to be obtained.

Question 6

- (a) Discuss the various kinds of Systematic and Unsystematic risk
- (b) A firm has a sales of Rs.6 crores, Variable cost Rs.3.5 crores and Fixed cost of Rs.0.65 crores. The firm has debt and equity resources worth of Rs.7 crores and 10 crores respectively. With the data given show:
 - (i) The firm's ROI.
 - (ii) EBIT if sales decline to Rs.4 crores.
 - (iii) If the industry's assets turnover is 4 times, does the firm has high or low asset turnover? The cost of debt is 10%, ignore taxation.
- (c) What are the characteristic features of Financial and Operating Lease?
- (d) Write short note on Inter Bank Participation Certificate. (6+6+4+4 = 20 Marks)

Answer

- (a) There are two types of Risk - Systematic (or non-diversifiable) and unsystematic (or diversifiable) relevant for investment - also, called as general and specific risk.

Types of Systematic Risk

- (i) Market risk: Even if the earning power of the Corporate sector and the interest rate structure remain more or less unchanged prices of securities, equity shares in particular, tend to fluctuate. Major cause appears to be the changing psychology of the investors. The irrationality in the security markets may cause losses unrelated to the basic risks. These losses are the result of changes in the general tenor of the market and are called market risks.
- (ii) Interest Rate Risk: The change in the interest rate have a bearing on the welfare of the investors. As the interest rate goes up, the market price of existing fixed income securities falls and vice versa. This happens because the buyer of a fixed income security would not buy it at its par value or face value if its fixed interest rate is lower than the prevailing interest rate on a similar security.
- (iii) Social or Regulatory Risk: The social or regulatory risk arises, where an otherwise profitable investment is impaired as a result of adverse legislation, harsh regulatory climate, or in extreme instance nationalization by a socialistic government.
- (iv) Purchasing Power Risk: Inflation or rise in prices lead to rise in costs of production, lower margins, wage rises and profit squeezing etc. The return expected by investors will change due to change in real value of returns.

Classification of Unsystematic Risk

- (i) Business Risk: As a holder of corporate securities (equity shares or debentures) one is exposed to the risk of poor business performance. This may be caused by a variety of factors like heightened competition, emergence of new technologies, development of substitute products, shifts in consumer preferences, inadequate

supply of essential inputs, changes in governmental policies and so on. Often of course the principal factor may be inept and incompetent management.

- (ii) Financial Risk: This relates to the method of financing, adopted by the company, high leverage leading to larger debt servicing problem or short term liquidity problems due to bad debts, delayed receivables and fall in current assets or rise in current liabilities.
- (iii) Default Risk: Default risk refers to the risk accruing from the fact that a borrower may not pay interest and/or principal on time. Except in the case of highly risky debt instrument, investors seem to be more concerned with the perceived risk of default rather than the actual occurrence of default. Even though the actual default may be highly unlikely, they believe that a change in the perceived default risk of a bond would have an immediate impact on its market price.

(b)		(Rs. Crore)
	Sales	6.0
Less	Variable cost	<u>3.5</u>
	Contribution	2.5
Less	Fixed Cost	<u>0.65</u>
	EBIT	1.85
Less:	Interest	<u>.70</u>
	EBT	1.15

Total Investment = Debt + Capital

$$7 + 10 =$$

17 Crores

(i)
$$ROI = \frac{EBIT}{Total Investment} = \frac{1.85}{17} = 10.88\%$$

(ii) If Sales declines to 4 crores

	Sales	4.0
	Variable Cost 33% as Sales decline by 33%	<u>2.33</u>
	Contribution	1.67
Less:	Fixed Cost	<u>.65</u>
	EBIT	1.02
Less:	Interest	<u>.70</u>
	EBT	0.32

(iii)
$$Asset\ turnover = \frac{Sales}{Total Asset} = \frac{6}{17} = .3529$$

The firm has a lower Asset turnover as compared to the industry.

(c) Salient features of Financial Lease

- (i) It is an intermediate term to long-term arrangement.
- (ii) During the primary lease period, the lease cannot be cancelled.
- (iii) The lease is more or less fully amortized during the primary lease period.
- (iv) The cost of maintenance, taxes, insurance etc., are to be incurred by the lessee unless the contract provides otherwise.
- (v) The lessee is required to take the risk of obsolescence.
- (vi) The lessor is only the Financier and is not interested in the asset.

Salient features of Operating Lease

- (i) The lease term is significantly less than the economic life of the equipment.
- (ii) It can be cancelled by the lessee prior to its expiration date.
- (iii) The lease rental is generally not sufficient to fully amortize the cost of the asset.
- (iv) The cost of maintenance, taxes, insurance are the responsibility of the lessor.
- (v) The lessee is protected against the risk of obsolescence.
- (vi) The lessor has the option to recover the cost of the asset from another party on cancellation of the lease by leasing out the asset.

(d) Inter Bank Participation Certificate

The Inter Bank Participation Certificates are short term instruments to even out the short term liquidity within the Banking system particularly when there are imbalances affecting the maturity mix of assets in Banking Book.

The primary objective is to provide some degree of flexibility in the credit portfolio of banks. It can be issued by schedule commercial bank and can be subscribed by any commercial bank.

The IBPC is issued against an underlying advance, classified standard and the aggregate amount of participation in any account time issue. During the currency of the participation, the aggregate amount of participation should be covered by the outstanding balance in account.

There are two types of participation certificates, with risk to the lender and without risk to the lender. Under 'with risk participation', the issuing bank will reduce the amount of participation from the advances outstanding and participating bank will show the participation as part of its advances. Banks are permitted to issue IBPC under 'with risk' nomenclature classified under Health Code-I status and the aggregate amount of such participation in any account should not exceed 40% of outstanding amount at the time of issue. The interest rate on IBPC is freely determined in the market. The certificates are neither transferable nor prematurely redeemable by the issuing bank.

Under without risk participation, the issuing bank will show the participation as borrowing from banks and participating bank will show it as advances to bank.

The scheme is beneficial both to the issuing and participating banks. The issuing bank can secure funds against advances without actually diluting its asset-mix. A bank having the highest loans to total asset ratio and liquidity bind can square the situation by issuing IBPCs. To the lender, it provides an opportunity to deploy the short-term surplus funds in a secured and profitable manner. The IBPC with risk can also be used for capital adequacy management.

This is simple system as compared to consortium tie up.