

MAFA-SN-2004.docPAPER – 2 : MANAGEMENT ACCOUNTING AND FINANCIAL ANALYSIS

*Question No. 1 is compulsory. Answer any **four** questions from the rest. Figures in the margin indicate marks allotted to each question. Working notes should form part of the answer.*

Question 1

You own an unused Gold mine that will cost Rs. 10,00,000 to reopen. If you open the mine, you expect to be able to extract 1,000 ounces of Gold a year for each of three years. After that the deposit will be exhausted. The Gold price is currently Rs. 5,000 an ounce, and each year the price is equally likely to rise or fall by Rs. 500 from its level at the start of year. The extraction cost is Rs.4,600 an ounce and the discount rate is 10 per cent.

Required:

- (a) *Should you open the mine now or delay one year in the hope of a rise in the Gold price?*
- (b) *What difference would it make to your decision if you could costlessly (but irreversibly) shut down the mine at any stage? Show the value of abandonment option. (20 marks)*

Answer

- (a) (i) Assume we open the mine now at $t = 0$. Taking into account the distribution of possible future price of gold over the next three years, we have

$$\begin{aligned}
 NPV &= - \text{Rs.}10,00,000 + \frac{1,000 \times [0.5 \times 5,500 + 0.5 \times 4,500] - 4,600}{1.10} \\
 &\quad + \frac{1,000 \times [(0.5)^2 (6,000 + 5,000 + 5,000 + 4,000) - 4,600]}{(1.10)^2} \\
 &\quad + \frac{1,000 \times [(0.5)^3 (6,500 + 5,500 + 5,500 + 4,500 + 4,500 + 5,500 + 4,500 + 3,500) - 4,600]}{(1.10)^3} \\
 &= - \text{Rs.} 5,260
 \end{aligned}$$

Because the NPV is negative, we should not open the mine at $t = 0$. It does not make sense to open the mine at any price less than or equal to Rs. 5,000 per ounce.

- (ii) Assume that we delay one year until $t = 1$, and open the mine if the price is Rs. 5,500.

At that point :

$$NPV = - \text{Rs.}10,00,000 + \sum_{t=1}^3 \frac{(1,000) \times (5,500 - 4,600)}{(1.10)^t} = \text{Rs.} 12,38,167$$

If the price at t_1 reaches Rs. 5,500, then expected price for all future periods is Rs. 5,500.

NPV at $t_0 = \text{Rs. } 12,38,167/1.10 = \text{Rs. } 11,25,606$

If the price rises to Rs. 5,500 at $t = 1$, we should open the mine at that time.

The expected NPV of this strategy is:

$$(0.50 \times \text{Rs. } 11,25,606) + (0.50 \times 0) = \text{Rs. } 5,62,803$$

As already stated mine should not be opened if the price is less than or equal to Rs. 5,000 per ounce.

If the price at t_1 reaches Rs. 4,500, then expected price for all future periods is Rs. 4,500. In that situation we should not open the mine.

- (b) Suppose we open the mine at $t = 0$, when the price is Rs. 5,000. At $t = 2$, there is a 0.25 probability that the price will be Rs. 4,000. Then since the price at $t = 3$ cannot rise above the extraction cost, the mine should be closed. If we open the mine at $t = 0$, when the price was Rs.5,000 with the closing option the NPV will be:

$$\begin{aligned} \text{NPV} &= - \text{Rs. } 10,00,000 + \sum_{t=1}^2 \frac{(5,000 - 4,600) \times 1,000}{(1.10)^t} \\ &\quad + \frac{.125 \times [1,900 + 900 + 900 + 900 - 100 - 100] \times 1,000}{(1.10)^3} \\ &= \text{Rs. } 1,07,438 \end{aligned}$$

Therefore, the NPV with the abandonment option is Rs. 1,07,438.

The value of the abandonment option is:

$$0.25 \times 1,000 \times (600) / (1.10)^3 = \text{Rs. } 1,12,697$$

The NPV of strategy (2), that to open the mine at $t = 1$, when price rises to Rs. 5,500 per ounce, even without abandonment option, is higher than option 1. Therefore, the strategy (2) is preferable.

Under strategy 2, the mine should be closed if the price reaches Rs. 4,500 at $t = 3$, because the expected profit is $(\text{Rs. } 4,500 - 4,600) \times 1,000 = - \text{Rs. } 1,00,000$.

The value of the abandonment option is:

$$0.125 \times (1,00,000) / (1.10)^4 = \text{Rs. } 8,538$$

Note: Students may also assume that the price of the gold remains at Rs. 5,000 to solve the question.

Question 2

- (a) Calculate economic value added (EVA) with the help of the following information of Hypothetical Limited:

Financial leverage : 1.4 times

Capital structure : *Equity Capital Rs. 170 lakhs*
Reserves and surplus Rs. 130 lakhs
10% Debentures Rs. 400 lakhs
Cost of Equity : *17.5%*
Income Tax Rate : *30%.*

(b) A has invested in three Mutual Fund Schemes as per detailed below:

	MF A	MF B	MF C
<i>Date of investment</i>	01.12.2003	01.01.2004	01.03.2004
<i>Amount of investment</i>	Rs. 50,000	Rs. 1,00,000	Rs. 50,000
<i>Net Asset Value (NAV) at entry date</i>	Rs. 10.50	Rs. 10	Rs. 10
<i>Dividend received upto 31.03.2004</i>	Rs. 950	Rs. 1,500	Nil
<i>NAV as at 31.03.2004</i>	Rs. 10.40	Rs. 10.10	Rs. 9.80

Required:

What is the effective yield on per annum basis in respect of each of the three schemes to Mr. A upto 31.03.2004?

(c) *Explain the term 'Exposure Netting', with an example.*

(d) *Distinguish between Money market and Capital Market.* (6 + 6 + 5 + 3 = 20 marks)

Answer

(a) Financial Leverage = PBIT/PBT

$$1.4 = \text{PBIT} / (\text{PBIT} - \text{Interest})$$

$$1.4 = \text{PBIT} / (\text{PBIT} - 40)$$

$$1.4 (\text{PBIT} - 40) = \text{PBIT}$$

$$1.4 \text{ PBIT} - 56 = \text{PBIT}$$

$$1.4 \text{ PBIT} - \text{PBIT} = 56$$

$$0.4 \text{ PBIT} = 56$$

$$\text{or } \text{PBIT} = \frac{56}{0.4} = \text{Rs. 140 lakhs}$$

$$\text{NOPAT} = \text{PBIT} - \text{Tax} = \text{Rs. 140 lakhs} (1 - 0.30) = \text{Rs. 98 lakhs.}$$

$$\text{Weighted average cost of capital (WACC)} = 17.5\% \times (300 / 700) + (1 - 0.30) \times (10\%) \times (400 / 700)$$

$$= 11.5\%$$

$$\text{EVA} = \text{NOPAT} - (\text{WACC} \times \text{Total Capital})$$

$$= \text{Rs. 98 lakhs} - 0.115 \times \text{Rs. 700 lakhs}$$

$$= \text{Rs. 17.5 lakhs}$$

(b)	<i>Scheme</i>	<i>Investment</i>	<i>Unit Nos.</i>	<i>Unit NAV</i> <i>31.3.2004</i>	<i>Total NAV</i> <i>31.3.2004</i>
		<i>Rs.</i>		<i>Rs.</i>	<i>Rs.</i>
	MFA	50,000	4761.905	10.40	49,523.812
	MFB	1,00,000	10,000	10.10	1,01,000
	MFC	50,000	5,000	9.80	49,000

<i>Scheme</i>	<i>NAV</i> <i>(+) / (-)</i>	<i>Dividend</i> <i>Received</i>	<i>Total Yield</i>	<i>Number of</i> <i>days</i>	<i>Effective Yield</i> <i>(% P.A.)</i>
	<i>Rs.</i>	<i>Rs.</i>	<i>Rs.</i>		
MFA	(-)476.188	950	473.812	122	2.835%
MFB	(+)1,000	1,500	2,500	91	10.027%
MFC	(-)1,000	Nil	(-)1,000	31	(-)24%

- (c) Exposure Netting refers to offsetting exposures in one currency with Exposures in the same or another currency, where exchange rates are expected to move in such a way that losses or gains on the first exposed position should be offset by gains or losses on the second currency exposure.

The objective of the exercise is to offset the likely loss in one exposure by likely gain in another. This is a manner of hedging forex exposures though different from forward and option contracts. This method is similar to portfolio approach in handling systematic risk.

For example, let us assume that a company has an export receivables of US\$ 10,000 due 3 months hence, if not covered by forward contract, here is a currency exposure to US\$.

Further, the same company imports US\$ 10,000 worth of goods/commodities and therefore also builds up a reverse exposure. The company may strategically decide to leave both exposures open and not covered by forward, it would be doing an exercise in exposure netting.

Despite the difficulties in managing currency risk, corporates can now take some concrete steps towards implementing risk mitigating measures, which will reduce both actual and future exposures. For years now, banking transactions have been based on the principle of netting. Where only the difference of the summed transactions between the parties is actually transferred. This is called settlement netting. Strictly speaking in banking terms this is known as settlement risk. Exposure netting occurs where

outstanding positions are netted against one another in the event of counter party default.

- (d) The capital market deals in financial assets. Financial assets comprises of shares, debentures, mutual funds etc. The capital market is also known as stock market.

Stock market and money market are two basic components of Indian financial system. Capital market deals with long and medium term instruments of financing while money market deals with short term instruments.

Some of the points of distinction between capital market and money market are as follows:

	Money Market	Capital Market
(i)	There is no classification between primary market and secondary market	There is a classification between primary market and secondary market.
(ii)	It deals for funds of short-term requirement.	It deals with funds of long-term requirement.
(iii)	Money market instruments include interbank call money, notice money upto 14 days, short-term deposits upto three months, commercial paper, 91 days treasury bills.	Capital Market instruments are shares and debt instruments.
(iv)	Money market participants are banks, financial institution, RBI and Government	Capital Market participants include retail investors, institutional investors like Mutual Funds, Financial Institutions, corporate and banks.

Question 3

- (a) ABC Limited's shares are currently selling at Rs. 13 per share. There are 10,00,000 shares outstanding. The firm is planning to raise Rs. 20 lakhs to Finance a new project.

Required:

What is the ex-right price of shares and the value of a right, if

- The firm offers one right share for every two shares held.
 - The firm offers one right share for every four shares held.
 - How does the shareholders' wealth change from (i) to (ii)? How does right issue increases shareholders' wealth?
- (b) Fair finance, a leasing company, has been approached by a prospective customer

intending to acquire a machine whose Cash Down price is Rs. 3 crores. The customer, in order to leverage his tax position, has requested a quote for a three year lease with rentals payable at the end of each year but in a diminishing manner such that they are in the ratio of 3 : 2 : 1.

Depreciation can be assumed to be on straight line basis and Fair Finance's marginal tax rate is 35%. The target rate of return for Fair Finance on the transaction is 10%.

Required:

Calculate the lease rents to be quoted for the lease for three years.

- (c) Explain briefly about net asset value (NAV) of a Mutual Fund Scheme.

(6 + 8 + 6 = 20 marks)

Answer

- (a) (i) Number of shares to be issued : 5,00,000

$$\text{Per - right} = \frac{\text{Rs. } 1,30,00,000 + 20,00,000}{15,00,000} = \text{Rs. } 10$$

Subscription price Rs. 20,00,000 / 5,00,000 = Rs. 4

$$\text{Value of right} = \frac{\text{Rs. } 10 - 4}{2} = 3$$

- (ii) $\text{Per - right} = \frac{\text{Rs. } 1,30,00,000 + 20,00,000}{12,50,000} = \text{Rs. } 12$

Subscription price Rs. 20,00,000 / 2,50,000 = Rs. 8

$$\text{Value of right} = \frac{\text{Rs. } 12 - 8}{4} = \text{Rs. } 1$$

- (iii) Since right issue is constructed in such a way so that shareholders' proportionate share will remain unchanged, shareholders' wealth does not change from (i) to (ii).

Right issue increases shareholders' wealth because the cost of issuing right shares is much lower than the cost of a public issue.

- (b) Capital sum to be placed under Lease

Rs. in lakhs

Cash Down price of machine 300.00

Less: Present value of depreciation

Tax Shield

$$\begin{array}{rcl}
 100 \times .35 \times \frac{1}{(1.10)} & 31.82 & \\
 100 \times .35 \times \frac{1}{(1.10)^2} & 28.93 & \\
 100 \times .35 \times \frac{1}{(1.10)^3} & \underline{26.30} & 87.05 \\
 & & \underline{212.95}
 \end{array}$$

If the normal annual lease rent per annum is x , then cash flow will be:

Year	Post-tax cash flow	P.V. of post-tax cash flow
1	$3x \times (1 - .35) = 1.95x$	$1.95x \times (1/1.10) = 1.7727x$
2	$2x \times (1 - .35) = 1.3x$	$1.30x \times [(1/(1.10)^2)] = 1.0743x$
3	$x \times (1 - .35) = 0.65x$	$0.65x \times [1/(1.10)^3] = \underline{0.4884x}$
		$\underline{= 3.3354x}$

Therefore $3.3354x = 212.95$ OR $x = \text{Rs. } 63.8454 \text{ lakhs}$

Year-wise lease rentals:	Rs. in lakhs
Year 1	$3 \times 63.8454 \text{ lakhs} = 191.54$
2	$2 \times 63.8454 \text{ lakhs} = 127.69$
3	$1 \times 63.8454 \text{ lakhs} = 63.85$

- (c) Net Asset Value (NAV) is the total asset value (net of expenses) per unit of the fund calculated by the Asset Management Company (AMC) at the end of every business day. Net Asset Value on a particular date reflects the realizable value that the investor will get for each unit that he is holding if the scheme is liquidated on that date.

The performance of a particular scheme of a mutual fund is denoted by Net Asset Value (NAV). Net Asset Value may also be defined as the value at which new investors may apply to a mutual fund for joining a particular scheme.

It is the value of net assets of the fund. The investors' subscription is treated as the capital in the balance sheet of the fund, and the investments on their behalf are treated as assets. The NAV is calculated for every scheme of the MF individually.

$$\text{The Net Asset Value (NAV)} = \frac{\text{Net Assets of the scheme}}{\text{Number of units outstanding}}$$

Net Assets of the scheme will normally be:

Market value of investments + Receivables + Accrued Income + Other Assets – Accrued

Expenses – Payables – Other Liabilities

Since investments by a Mutual Fund are marked to market, the value of the investments for computing NAV will be at market value.

NAV of MF schemes are published on a daily basis in Newspapers and play an important part in investors' decisions to enter or to exit. Analyst use the NAV to determine the yield on the schemes.

Question 4

(a) Which position on the index future gives a speculator, a complete hedge against the following transactions:

- (i) The share of Right Limited is going to rise. He has a long position on the cash market of Rs. 50 lakhs on the Right Limited. The beta of the Right Limited is 1.25.
- (ii) The share of Wrong Limited is going to depreciate. He has a short position on the cash market of Rs. 25 lakhs on the Wrong Limited. The beta of the Wrong Limited is 0.90.
- (iii) The share of Fair Limited is going to stagnant. He has a short position on the cash market of Rs. 20 lakhs of the Fair Limited. The beta of the Fair Limited is 0.75.

(b) Mr. A is contemplating purchase of 1,000 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 Rs. 2 per share. Even as he is contemplating, Mr. A suddenly finds, due to a budget announcement dividends have been exempted from tax in the hands of the recipients. But the imposition of dividend Distribution tax on the Company is likely to lead to a fall in dividend of 20 paise per share. A's marginal tax rate is 30%.

Required:

Calculate what should be Mr. A's estimates of the price per share before and after the Budget announcement?

(c) Excel Exporters are holding an Export bill in United States Dollar (USD) 1,00,000 due 60 days hence. They are worried about the falling USD value which is currently at Rs. 45.60 per USD. The concerned Export Consignment has been priced on an Exchange rate of Rs. 45.50 per USD. The Firm's Bankers have quoted a 60-day forward rate of Rs. 45.20.

Calculate:

- (i) Rate of discount quoted by the Bank
- (ii) The probable loss of operating profit if the forward sale is agreed to.

(d) Distinguish between Forfeiting and Factoring. (6 + 6 + 4 + 4 = 20 marks)

Answer

(a)	Sl. No.	Company Name	Trend	Amount (Rs.)	Beta	Index (Rs.)	Value	Position
	(i)	Right Ltd.	Rise	50 lakh	1.25	62,50,000		Short
	(ii)	Wrong Ltd.	Depreciate	25 lakh	0.90	22,50,000		Long
	(iii)	Fair Ltd.	Stagnant	20 lakh	0.75	<u>15,00,000</u>		Long
						<u>25,00,000</u>		Short

(b) The formula for determining value of a share based on expected dividend is:

$$P_0 = \frac{D_0 (1+g)}{(k-g)}$$

Where

P_0 = Price (or value) per share

D_0 = Dividend per share

g = Growth rate expected in dividend

k = Expected rate of return

Hence,

Price estimate before budget announcement:

$$P_0 = \frac{2 \times (1 + 0.05)}{(0.10 - 0.05)} = \text{Rs. } 42.00$$

Price estimate after budget announcement:

$$P_0 = \frac{1.80 \times (1.05)}{(.07 - .05)} = \text{Rs. } 94.50$$

(c) (i) Rate of discount quoted by the bank

$$= \frac{(45.20 - 45.60) \times 365 \times 100}{45.20 \times 60} = 5.38\%$$

(ii) Probable loss of operating profit:

$$(45.20 - 45.50) \times 1,00,000 = \text{Rs. } 30,000$$

(d) Forfeiting was developed to finance medium to long term contracts for financing capital goods. It is now being more widely used in the short-term also especially where the contracts involve large values. There are specialized finance houses that deal in this business and many are linked to some of main banks.

This is a form of fixed rate finance which involves the purchase by the forfeiture of trade

receivables normally in the form of trade bills of exchange or promissory notes, accepted by the buyer with the endorsement or guarantee of a bank in the buyer's country.

The benefits are that the exporter can obtain full value of his export contract on or near shipment without recourse. The importer on the other hand has extended payment terms at fixed rate finance.

The forfeiture takes over the buyer and country risks. Forfeiting provides a real alternative to the government backed export finance schemes.

Factoring can however, broadly be defined as an agreement in which receivables arising out of sale of goods/services are sold by a "firm" (client) to the "factor" (a financial intermediary) as a result of which the title to the goods/services represented by the said receivables passes on to the factor. Henceforth, the factor becomes responsible for all credit control, sales accounting and debt collection from the buyer(s). In a full service factoring concept (without recourse facility) if any of the debtors fails to pay the dues as a result of his financial instability/insolvency/bankruptcy, the factor has to absorb the losses.

Some of the points of distinction between forfeiting and factoring have been outlined in the following table.

Factoring	Forfeiting
This may be with recourse or without recourse to the supplier.	This is without recourse to the exporter. The risks are borne by the forfeiter.
It usually involves trade receivables of short maturities.	It usually deals in trade receivables of medium and long term maturities.
It does not involve dealing in negotiable instruments.	It involves dealing in negotiable instrument like bill of exchange and promissory note.
The seller (client) bears the cost of factoring.	The overseas buyer bears the cost of forfeiting.
Usually it involves purchase of all book debts or all classes of book debts.	Forfeiting is generally transaction or project based. Its structuring and costing is case to case basis.
Factoring tends to be a 'case of' sell of debt obligation to the factor, with no secondary market.	There exists a secondary market in forfeiting. This adds depth and liquidity to forfeiting.

Question 5

- (a) Given below is information of market rates of Returns and Data from two Companies A and B:

	Year 2002	Year 2003	Year 2004
Market (%)	12.0	11.0	9.0
Company A (%)	13.0	11.5	9.8
Company B (%)	11.0	10.5	9.5

Required:

- (i) Determine the beta coefficients of the Shares of Company A and Company B.
(ii) Distinguish between 'Systematic risk' and 'Unsystematic risk'.
(b) The following information is provided related to the acquiring Firm Mark Limited and the target Firm Mask Limited:

	Firm Mark Limited	Firm Mask Limited
Earning after tax (Rs.)	2,000 lakhs	400 lakhs
Number of shares outstanding	200 lakhs	100 lakhs
P/E ratio (times)	10	5

Required:

- (i) What is the Swap Ratio based on current market prices?
(ii) What is the EPS of Mark Limited after acquisition?
(iii) What is the expected market price per share of Mark Limited after acquisition, assuming P/E ratio of Mark Limited remains unchanged?
(iv) Determine the market value of the merged firm.
(v) Calculate gain/loss for shareholders of the two independent companies after acquisition.
(c) Explain the terms 'Intrinsic value of an option' and the 'Time value of an option'.

(8 + 8 + 4 = 20 marks)

Answer

- (a) (i) **Company A:**

Year	Return % (Ra)	Market return % (Rm)	Deviation R(a)	Deviation Rm	D Ra × DRm	Rm ²
1	13.0	12.0	1.57	1.33	2.09	1.77
2	11.5	11.0	0.07	0.33	0.02	0.11
3	<u>9.8</u>	<u>9.0</u>	-1.63	-1.67	<u>2.72</u>	<u>2.79</u>
	<u>34.3</u>	<u>32.0</u>			<u>4.83</u>	<u>4.67</u>

$$\text{Average } R_a = 11.43$$

$$\text{Average } R_m = 10.67$$

$$\text{Covariance} = \frac{4.83}{2} = 2.42$$

$$\hat{\alpha} = \frac{2.42}{2.34} = 1.03$$

Company B:

Year	Return % (R_a)	Market return % (R_m)	Deviation $R(a)$	Deviation R_m	$D R_a \times D R_m$	R_m^2
1	11.0	12.0	0.67	1.33	0.89	1.77
2	10.5	11.0	0.17	0.33	0.06	0.11
3	<u>9.5</u>	<u>9.0</u>	-0.83	-1.67	<u>1.39</u>	<u>2.79</u>
	<u>31.0</u>	<u>32.0</u>			<u>2.34</u>	<u>4.67</u>

$$\text{Average } R_a = 10.33$$

$$\text{Average } R_m = 10.67$$

$$\text{Covariance} = \frac{2.34}{2} = 1.17$$

$$\hat{\alpha} = \frac{1.17}{2.34} = 0.50$$

- (ii) Systematic risk refers to the variability of return on stocks or portfolio associated with changes in return on the market as a whole. It arises due to risk factors that affect the overall market such as changes in the nations' economy, tax reform by the Government or a change in the world energy situation. These are risks that affect securities overall and, consequently, cannot be diversified away. This is the risk which is common to an entire class of assets or liabilities. The value of investments may decline over a given time period simply because of economic changes or other events that impact large portions of the market. Asset allocation and diversification can protect against systematic risk because different portions of the market tend to under perform at different times. This is also called market risk.
- Unsystematic risk however, refers to risk unique to a particular company or industry. It is avoidable through diversification. This is the risk of price change due to the unique circumstances of a specific security as opposed to the over all market. This risk can be virtually eliminated from a portfolio through diversification.

(b) Particulars	Mark Ltd.	Mask Ltd.
EPS	Rs. 2,000 Lakhs/ 200 lakhs = Rs. 10	Rs. 400 lakhs / 100 lakhs Rs. 4
Market Price	Rs. 10 × 10 = Rs. 100	Rs. 4 × 5 = Rs. 20

(i) The Swap ratio based on current market price is

Rs. 20 / Rs. 100 = 0.2 or 1 share of Mark Ltd. for 5 shares of Mask Ltd.

No. of shares to be issued = Rs. 100 lakh × 0.2 = Rs. 20 lakhs.

(ii) EPS after merger

$$= \frac{\text{Rs. 2,000 lakhs} + \text{Rs. 400 lakhs}}{200 \text{ lakhs} + 20 \text{ lakhs}}$$

= Rs. 10.91

(iii) Expected market price after merger assuming P / E 10 times.

= Rs. 10.91 × 10 = Rs. 109.10

(iv) Market value of merged firm

= Rs. 109.10 market price × 220 lakhs shares = 240.02 crores

(v) Gain from the merger

Post merger market value of the merged firm Rs. 240.02 crores

Less: Pre-merger market value

Mark Ltd. 200 Lakhs × Rs. 100 = 200 crores

Mask Ltd. 100 Lakhs × Rs. 20 = 20 crores Rs. 220.00 crores

Gain from merger Rs. 20.02 crores

Appropriation of gains from the merger among shareholders:

	Mark Ltd.	Mask Ltd.
Post merger value	218.20 crores	21.82 crores
Less: Pre-merger market value	200.00 crores	20.00 crores
Gain to Shareholders	18.20 crores	1.82 crores

(c) Intrinsic value of an Option:

Intrinsic value of an option and the time value of an option are primary determinants of an option's price. By being familiar with these terms and knowing how to use them, any one will find himself in a much better position to choose the option contract that best suits his particular investment requirements.

Intrinsic Value is the value that any given option would have if it were exercised today. It

is defined as the difference between the option's strike price (X) and the stock's actual current price (CP). In the case of a call option, you can calculate this intrinsic value by taking $CP - X$. If the result is greater than zero (in other words, if the stock's current price is greater than the option's strike price), then the amount left over after subtracting $CP - X$ is the option's intrinsic value. If the strike price is greater than the current stock price, then the intrinsic value of the option is zero – it would not be worth anything if it were to be exercised today (please note that an option's intrinsic value can never be below zero. To determine the intrinsic value of a put option, simply reverse the calculation to $X - CP$).

To illustrate, let us assume Wipro stock is priced at Rs. 105. In this case, a Wipro 100 *call* option would have an intrinsic value of (Rs. 105 – Rs. 100 = Rs 5). However, a Wipro 100 *put* option would have an intrinsic value of zero (Rs. 100 – Rs. 105 = Rs. – 5). Since this figure is less than zero, the intrinsic value is zero. Again, intrinsic value can never be negative). On the other hand, if we were to look at a Wipro *put* option with a strike price of 120, then this particular option would have an intrinsic value of Rs. 15 (Rs. 120 – Rs. 105 = Rs. 15).

Time Value: This is the second component of an option's price. It is defined as any value of an option other than its intrinsic value. Looking at the example above, if Wipro is trading at Rs. 105 and the Wipro 100 *call* option is trading at Rs. 7, then we would say that this option has Rs. 2 of time value (Rs. 7 option price – Rs. 5 intrinsic value = Rs. 2 time value). Options that have zero intrinsic value are comprised entirely of time value. Time value is basically the risk premium that the seller requires to provide the option buyer with the right to buy/sell the stock up to the expiration date. This component may be regarded as the “insurance premium” of the option. This is also known as extrinsic value. Time value decays over time. In other words, the time value of an option is directly related to how much time an option has until expiration. The more time an option has until expiration, the greater the chances of option ending up in the money.

Question 6

- (a) Briefly explain 'Buy Back of Securities' and give the management objectives of buying Back Securities.
- (b) Explain the term 'Insider Trading' and why Insider Trading is punishable.
- (c) Write a brief note on the tax issues relating to Foreign Collaboration Agreements.
- (d) A customer with whom the Bank had entered into 3 months forward purchase contract for Swiss Franks 1,00,000 at the rate of Rs. 36.25 comes to the bank after two months and requests cancellation of the contract. On this date, the rates are:

Spot	CHF 1 = Rs. 36.30	36.35
One month forward	36.45	36.52

Determine the amount of Profit or Loss to the customer due to cancellation of the contract.
(5 + 5 + 6 + 4 = 20 marks)

Answer

(a) Buy Back of securities:

Companies are allowed to buy back equity shares or any other security specified by the Union Government. In India Companies are required to extinguish shares bought back within seven days. In USA Companies are allowed to hold bought back shares as treasury stock, which may be reissued. A company buying back shares makes an offer to purchase shares at a specified price. Shareholders accept the offer and surrender their shares.

The following are the management objectives of buying back securities:

- (i) To return excess cash to shareholders, in absence of appropriate investment opportunities.
- (ii) To give a signal to the market that shares are undervalued.
- (iii) To increase promoters holding, as a percentage of total outstanding shares, without additional investment. Thus, buy back is often used as a defence mechanism against potential takeover.
- (iv) To change the capital structure.

(b) Insider Trading:

Insider Trading is a buying or selling or dealing in securities of a listed company, by a director, member of management, an employee or any other person such as internal or statutory auditor, agent, advisor, analyst consultant etc. who have knowledge of material, 'inside' information not available to general public. The dealing in securities by an insider is illegal when it is predicated upon utilization of inside information to profit at the expense of other investors who do not have access to such investment information. The word insider has wide connotation. An outsider may be held to be an insider by virtue of his engaging himself in this practice on the strength of inside information.

Insider trading which is an unethical practice resorted by those in power in corporates has manifested not only in India but elsewhere in the world causing huge losses to common investors thus driving them away from capital market. Therefore, it is punishable.

(c) Tax issues relating to foreign collaborations:

Foreign collaborations can be either technical or financial or sometimes both.

In the case of technical collaborations, the important tax-related considerations that would arise are:

- (i) Treatment of technical fees – when to be capitalized and subjected to depreciation

and when to be charged to Profit and Loss Account.

While the tax treatment has to be determined in every individual case as applicable, generally:

- ◆ Fees relating to advice on procurement of machinery/assets, can be capitalized to the value of such asset
- ◆ Fees relating to process are revenue in nature and are to be amortised over a period.
- ◆ Fees relating to use of brand name are to be treated as revenue expenditure.

The issue of tax deduction at source from such fees as payable is also to be studied carefully and compliance taken care of.

(ii) Treatment of Dividend/distribution of profit

Normally there could be a withholding tax in the case of dividend to non-resident shareholders. As of now, in India in view of corporate dividend tax, there is no tax on dividend in the hands of recipients.

(iii) Since in a foreign collaboration agreement at least two countries are involved, the applicability of respective Double Taxation Relief Agreement is also to be studied and the relevant provisions taken into account.

(d) Original contract for Swiss Francs 1,00,000 @ 36.25 – amount receivable by the customer.

To cancel the purchase contract 1 month before the due date – The contract will be cancelled at 1 month forward sale rate i.e. Swiss Francs 1 = 36.52 payable by the customer.

Hence, Swap profit / loss to the customer:

Rs. 36.52	payable by the customer
Rs. 36.25	receivable by the customer
Rs. 0.27	Net payable by the customer i.e. loss

Therefore, total loss to the customer is

$$\text{Swiss Francs } 1,00,000 \times \text{Rs. } 0.27 = \text{Rs. } 27,000$$