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PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

*Question No.1 is **compulsory**.*

*Answer any **five** questions from the remaining **six** questions.*

Working notes should form part of the answer.

Question 1

(a) LMN & Co. plans to issue Commercial Paper (CP) of ₹ 1,00,000 at a price of ₹ 98,000.

Maturity Period: 4 Months

Expenses for issue of CP are :

(i) Brokerage 0.10%

(ii) Rating Charges 0.60% and

(iii) Stamp Duty 0.15%

Find the effective interest rate per annum and the cost of Fund. *(5 Marks)*

(b) On 31-8-2011, the value of stock index was ₹ 2,200. The risk free rate of return has been 8% per annum. The dividend yield on this Stock Index is as under:

Month	Dividend Paid
January	3%
February	4%
March	3%
April	3%
May	4%
June	3%
July	3%
August	4%
September	3%
October	3%
November	4%
December	3%

Assuming that interest is continuously compounded daily, find out the future price of contract deliverable on 31-12-2011.

Given: $e^{0.01583} = 1.01593$ *(5 Marks)*

(c) The price of a bond just before a year of maturity is $ 5,000. Its redemption value is $ 5,250 at the end of the said period. Interest is $ 350 p.a. The Dollar appreciates by 2% during the said period. Calculate the rate of return. *(5 Marks)*

(d) A company is long on 10 MT of copper @ ₹ 474 per kg (spot) and intends to remain so for the ensuing quarter. The standard deviation of changes of its spot and future prices are 4% and 6% respectively, having correlation coefficient of 0.75.

What is its hedge ratio? What is the amount of the copper future it should short to achieve a perfect hedge?

(5 Marks)

Answer

(a) Effective Interest Rate= $\left[\frac{F-P}{P}\right]\times\frac{12}{m}\times 100$

$$= \frac{1,00,000-98,000}{98,000}\times\frac{12}{4}\times 100$$

= 0.02041 x 3 x 100

= 6.123% say 6.12%

Effective Interest Rate = 6.12% p.a

Cost of Funds to the Company

Effective Interest	6.12%
Brokerage	0.10%
Rating Charges	0.60%
Stamp Duty	0.15%
Cost of funds	6.97%

Note: In the question it has not been clearly mentioned whether issue expenses pertain to a year or 4 months. Although above solution is based on the assumption that these expenses pertains to a year, but students can also consider them as expenses for 4 months and solve the question accordingly.

(b) The duration of future contract is 4 months. The average yield during this period will be:

$$\frac{3\%+3\%+4\%+3\%}{4} = 3.25\%$$

As per Cost to Carry model the future price will be

$F = Se^{(r_f - D)t}$

Where S = Spot Price

r_f = Risk Free interest

D = Dividend Yield

t = Time Period

Accordingly, future price will be

= ₹ 2,200 $e^{(0.08-0.0325)\times 4/12}$

= ₹ 2,200 $e^{0.01583}$

= ₹ 2,200 x 1.01593

= ₹ 2235.05

(c) Here we can assume two cases (i) If investor is US investor then there will be no impact of appreciation in $. (ii) If investor is from any other nation other than US say Indian then there will be impact of $ appreciation on his returns.

First we shall compute return on bond which will be common for both investors.

$$\text{Return} = \frac{(\text{Price at end} - \text{Price at begining}) + \text{Interest}}{\text{Price at begining}}$$

$$= \frac{(5250 - 5000) + 350}{5000}$$

$$= \frac{250 + 350}{5000} = 0.12 \text{ say } 12\%$$

(i) For US investor the return shall be 12% and there will be no impact of appreciation in $.

(ii) If $ appreciate by 2% then return for non-US investor shall be:

Return x 1.02 = 0.12 x 1.02=0.1224 i.e. 12.24%

Alternatively it can also be considered that $ appreciation will be applicable to the amount of principal as well. The answer therefore could also be

(1+0.12)(1+0.02) -1 =1.12X1.02 - 1 = 0.1424 i.e. 14.24%

(d) The optional hedge ratio to minimize the variance of Hedger's position is given by:

$$H = r\frac{s_S}{s_F}$$

Where

σS= Standard deviation of ΔS

σF=Standard deviation of ΔF

ρ= coefficient of correlation between ΔS and ΔF

H= Hedge Ratio

ΔS = change in Spot price.

ΔF= change in Future price.

Accordingly

$$H = 0.75 \times \frac{0.04}{0.06} = 0.5$$

No. of contract to be short = 10 x 0.5 = 5

Amount = 5000 x ₹ 474 = ₹ 23,70,000

Question 2

(a) A machine used on a production line must be replaced at least every four years.

Costs incurred to run the machine according to its age are :

Age of the Machine (years)					
	0	*1*	*2*	*3*	*4*
Purchase price (in ₹)	*60,000*				
Maintenance (in ₹)		*16,000*	*18,000*	*20,000*	*20,000*
Repair (in ₹)		*0*	*4,000*	*8,000*	*16,000*
Scrap Value (in ₹)		*32,000*	*24,000*	*16,000*	*8,000*

Future replacement will be with identical machine with same cost. Revenue is unaffected by the age of the machine. Ignoring inflation and tax, determine the optimum replacement cycle. PV factors of the cost of capital of 15% for the respective four years are 0.8696, 0.7561, 0.6575 and 0.5718. (10 Marks)

(b) In December, 2011 AB Co.'s share was sold for ₹ 146 per share. A long term earnings growth rate of 7.5% is anticipated. AB Co. is expected to pay dividend of ₹ 3.36 per share.

(i) What rate of return an investor can expect to earn assummg that dividends are expected to grow along with earnings at 7.5% per year in perpetuity?

(ii) It is expected that AB Co. will earn about 10% on book Equity and shall retain 60% of earnings. In this case, whether, there would be any change in growth rate and cost of Equity? (6 Marks)

Answer

(a) Working Notes

First of all we shall calculate cash flows for each replacement cycle as follows:

One Year Replacement Cycle				₹
Year	Replacement Cost	Maintenance & Repair	Residual Value	Net cash Flow
0	(60,000)	-	-	(60,000)
1	-	(16,000)	32,000	16,000
Two Years Replacement Cycle				₹
Year	Replacement Cost	Maintenance & Repair	Residual Value	Net cash Flow
0	(60,000)	-	-	(60,000)
1	-	(16,000)	-	(16,000)
2	-	(22,000)	24,000	2,000
Three Years Replacement Cycle				₹
Year	Replacement Cost	Maintenance & Repair	Residual Value	Net cash Flow
0	(60,000)	-	-	(60,000)
1	-	(16,000)	-	(16,000)
2	-	(22,000)	-	(22,000)
3	-	(28,000)	16,000	(12,000)
Four Years Replacement Cycle				₹
Year	Replacement Cost	Maintenance & Repair	Residual Value	Net cash Flow
0	(60,000)	-	-	(60,000)
1	-	(16,000)	-	(16,000)
2	-	(22,000)	-	(22,000)
3	-	(28,000)	-	(28,000)
4	-	(36,000)	8,000	(28,000)

Now we shall calculate NPV for each replacement cycles

		1 Year		2 Years		3 Years		4 Years	
Year	PVF@ 15%	Cash Flows	PV	Cash Flows	PV	Cash Flows	PV	Cash Flows	PV
0	1	-60,000	-60,000	-60,000	-60,000	-60,000	-60,000	-60,000	-60,000
1	0.8696	16,000	13,914	-16,000	-13,914	-16,000	-13,914	-16,000	-13,914
2	0.7561	-	-	2,000	1,512	-22,000	-16,634	-22,000	-16,634
3	0.6575	-	-	-	0	-12,000	-7,890	-28,000	-18,410
4	0.5718	-	-	-	0		0	-28,000	-16,010
			-46,086		-72,402		-98,438		-1,24,968

Now we shall calculate Equivalent Annual Cost (EAC) per annuam using Capital Recovery Factor

Replacement Cycles		EAC (₹)
1 Year	$\frac{46,086}{0.8696}$	52,997
2 Years	$\frac{72,402}{1.6257}$	44,536
3 Years	$\frac{98,438}{2.2832}$	43,114
4 Years	$\frac{1,24,968}{2.855}$	43,772

Since EAC is least in case of replacement cycle of 3 years hence machine should be replaced after every three years.

(b) (i) According to Dividend Discount Model approach the firm's expected or required return on equity is computed as follows:

$$= \frac{D_1}{P_0} + g$$

Where,

K_e = Cost of equity share capital

D_1 = Expected dividend at the end of year 1

P_0 = Current market price of the share.

g = Expected growth rate of dividend.

Therefore, $K_e = \frac{3.36}{146} + 7.5\%$

= 0.0230 +0.075 = 0.098

Or, K_e = 9.80%

(ii) With rate of return on retained earnings (r) 10% and retention ratio (b) 60%, new growth rate will be as follows:

g= br i.e.

= 0.10 X 0.60 = 0.06

Accordingly dividend will also get changed and to calculate this, first we shall calculate previous retention ratio (b_1) and then EPS assuming that rate of return on retained earnings (r) is same.

With previous Growth Rate of 7.5% and r =10% the retention ratio comes out to be:

0.075 =b_1 X 0.10

b_1 = 0.75 and payout ratio = 0.25

With 0.25 payout ratio the EPS will be as follows:

$\frac{3.36}{0.25}$ = 13.44

With new 0.40 (1 – 0.60) payout ratio the new dividend will be

D_1 = 13.44 X 0.40 = 5.376

Accordingly new K_e will be

$K_e = \frac{5.376}{146} + 6.0\%$

or, K_e = 9.68%

Question 3

(a) LMN Ltd is considering merger with XYZ Ltd. LMN Ltd's shares are currently traded at ₹ 30.00 per share. It has 3,00,000 shares outstanding. Its earnings after taxes (EAT) amount to ₹ 6,00,000. XYZ Ltd has 1,60,000 shares outstanding and its current market price is ₹ 15.00 per share and its earnings after taxes (EAT) amount to ₹ 1,60,000. The merger is decided to be effected by means of a stock swap (exchange). XYZ Ltd has agreed to a proposal by which LMN Ltd will offer the current market value of XYZ Ltd's shares.

Find out:

(i) The pre-merger earnings per share (EPS) and price/earnings (P/E) ratios of both the companies.

(ii) If XYZ Ltd's P/E Ratio is 9.6, what is its current Market Price? What is the Exchange Ratio? What will LMN Ltd's post-merger EPS be?

(iii) What should be the exchange ratio, if LMN Ltd's pre-merger and post- merger EPS are to be the same? (8 Marks)

(b) DEF Ltd has been regularly paying a dividend of ₹ 19,20,000 per annum for several years and it is expected that same dividend would continue at this level in near future. There are 12,00,000 equity shares of ₹ 10 each and the share is traded at par.

The company has an opportunity to invest ₹ 8,00,000 in one year's time as well as further ₹ 8,00,000 in two year's time in a project as it is estimated that the project will generate cash inflow of ₹ 3,60,000 per annum in three year's time which will continue for ever. This investment is possible if dividend is reduced for next two years.

Whether the company should accept the project? Also analyze the effect on the market price of the share, if the company decides to accept the project. (8 Marks)

Answer

(a) (i) Pre-merger EPS and P/E ratios of LMN Ltd. and XYZ Ltd.

Particulars	*LMN Ltd.*	*XYZ Ltd.*
Earnings after taxes	6,00,000	1,60,000
Number of shares outstanding	3,00,000	1,60,000
EPS	2	1
Market Price per share	30	15
P/E Ratio (times)	15	15

(ii) Current Market Price of XYZ Ltd. if P/E ratio is 9.6 = ₹ 1 × 9.6 = ₹ 9.60

Exchange ratio = $\frac{30}{9.60}$ = 3.125

Post merger EPS of LMN Ltd.

$$= \frac{6,00,000 + 1,60,000}{3,00,000 + (1,60,000/3.125)}$$

$$= \frac{7,60,000}{3,51,200} = 2.16$$

(iii) Desired Exchange Ratio

Total number of shares in post-merged company

$$= \frac{\text{Post-merger earnings}}{\text{Pre-merger EPS of LMN Ltd.}} = \frac{7,60,000}{2} = 3,80,000$$

Number of shares required to be issued to XYZ Ltd.

= 3,80,000 – 3,00,000 = 80,000

Therefore, the exchange ratio should be

80,000 : 1,60,000

$$= \frac{80,000}{1,60,000} = 0.50$$

(b) First we calculate cost of Equity (K_e)/PE Ratio

$$D_1 = \frac{19,20,000}{12,00,000} = 1.6$$

$$P_0 = 10$$

$$K_e = \frac{D}{P} = \frac{₹\ 1.6}{10} = 16\%$$

$$P/E = \frac{10}{1.6} = 6.25$$

Now we shall compute NPV of the project

$$NPV = \frac{-800000}{(1+0.16)} + \frac{-800000}{(1+0.16)^2} + \frac{360000}{0.16} \times \frac{1}{(1+0.16)^3}$$

= -6,89,655 – 5,94,530 + 14,41,480

= 1,57,295

As NPV of the project is positive, the value of the firm will increase by ₹ 1,57,295 and spread over the number of shares e.g. 12,00,000, the market price per share will increase by 13 paisa.

Question 4

(a) Indira has a fund of ₹ 3 lacs which she wants to invest in share market with rebalancing target after every 10 days to start with for a period of one month from now. The present NIFTY is 5326. The minimum NIFTY within a month can at most be 4793.4. She wants to know as to how she should rebalance her portfolio under the following situations,

according to the theory of Constant Proportion Portfolio Insurance Policy, using "2" as the multiplier:

(1) Immediately to start with.

(2) 10 days later-being the 1st day of rebalancing if NIFTY falls to 5122.96.

(3) 10 days further from the above date if the NIFTY touches 5539.04.

For the sake of simplicity, assume that the value of her equity component will change in tandem with that of the NIFTY and the risk free securities in which she is going to invest will have no Beta. *(8 Marks)*

(b) X Ltd has an internal rate of return @ 20%. It has declared dividend @ 18% on its equity shares, having face value of ₹ 10 each. The payout ratio is 36% and Price Earning Ratio is 7.25. Find the cost of equity according to Walter's Model and hence determine the limiting value of its shares in case the payout ratio is varied as per the said model.

(8 Marks)

Answer

(a) Maximum decline in one month = $\frac{5326 - 4793.40}{5326} \times 100 = 10\%$

(1) Immediately to start with

Investment in equity = Multiplier x (Portfolio value – Floor value)

= 2 (3,00,000 – 2,70,000) = ₹ 60,000

Indira may invest ₹ 60,000 in equity and balance in risk free securities.

(2) After 10 days

Value of equity = 60,000 x 5122.96/5326	=	₹ 57,713
Value of risk free investment		₹ 2,40,000
Total value of portfolio	=	₹ 2,97,713

Investment in equity = Multiplier x (Portfolio value – Floor value)

= 2 (2,97,713 – 2,70,000)	=	₹ 55,426

Revised Portfolio:

Equity	=	₹ 55,426
Risk free Securities = ₹ 2,97,713 – ₹ 55,426	=	₹ 2,42,287

(3) After another 10 days

Value of equity = 55,426 x 5539.04/5122.96	=	₹ 59,928
Value of risk free investment	=	₹ 2,42,287
Total value of portfolio	=	₹ 3,02,215
Investment in equity = Multiplier x (Portfolio value – Floor value)		
= 2 (3,02,215 – 2,70,000)	=	₹ 64,430
Revised Portfolio:		
Equity	=	₹ 64,430
Risk Free Securities = ₹ 3,02,215 – ₹ 64,430	=	₹ 2,37,785

The investor should off-load ₹ 4502 of risk free securities and divert to Equity.

(b) Internal Rate of Return (r) = 0.20

Dividend (D) = 1.80

Earnings Per share (E) = $\frac{1.80}{0.36} = 5$

Price of share (P) = 5 x 7.25 = 36.25

$$P = \frac{D + \frac{r}{k_e}(E - D)}{K_e}$$

$$36.25 = \frac{1.80 + \frac{0.20(5 - 1.80)}{ke}}{k_e}$$

$$36.25\ K_e = 1.80 + \frac{0.20(3.20)}{K_e}$$

$$36.25\ K_e = 1.80 + \frac{0.64}{K_e}$$

$$36.25\ K_e^2 = 1.80\ K_e + 0.64$$

$$K_e = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

$$= \frac{-1.80 \pm \sqrt{(1.80)^2 - 4 \times (-36.25) \times 0.64}}{2 \times (-36.25)}$$

$$= \frac{-1.80 \pm \sqrt{3.24 + 92.80}}{-72.50}$$

$K_e = 16\%$

Since the firm is a growing firm, then 100% payout ratio will give limiting value of share

$$P = \frac{1.80 + \frac{0.20(5-5)}{0.16}}{0.16}$$

$$= \frac{1.80}{0.16}$$

= ₹ 11.25

Thus limiting value is ₹ 11.25

Question 5

(a) NP and Co. has imported goods for US $ 7,00,000. The amount is payable after three months. The company has also exported goods for US $ 4,50,000 and this amount is receivable in two months. For receivable amount a forward contract is already taken at ₹ 48.90.

The market rates for ₹ and Dollar are as under:

Spot	*₹ 48.50/70*
Two months	*25/30 points*
Three months	*40/45 points*

The company wants to cover the risk and it has two options as under :

(A) To cover payables in the forward market and

(B) To lag the receivables by one month and cover the risk only for the net amount. No interest for delaying the receivables is earned. Evaluate both the options if the cost of Rupee Funds is 12%. Which option is preferable? (8 Marks)

(b) A has portfolio having following features:

Security	*β*	*Random Error σ_{ei}*	*Weight*
L	*1.60*	*7*	*0.25*
M	*1.15*	*11*	*0.30*
N	*1.40*	*3*	*0.25*
K	*1.00*	*9*	*0.20*

You are required to find out the risk of the portfolio if the standard deviation of the market index (s_m) is 18%. *(8 Marks)*

Answer

(a) (i) To cover payable and receivable in forward Market

Amount payable after 3 months	$7,00,000
Forward Rate	₹ 48.45
Thus Payable Amount (₹) (A)	₹ 3,39,15,000
Amount receivable after 2 months	$ 4,50,000
Forward Rate	₹ 48.40
Thus Receivable Amount (₹) (B)	₹ 2,17,80,000
Interest @ 12% p.a. for 1 month (C)	₹2,17,800
Net Amount Payable in (₹) (A) – (B) – (C)	₹ 1,19,17,200

(ii) Assuming that since the forward contract for receivable was already booked it shall be cancelled if we lag the receivables. Accordingly any profit/ loss on cancellation of contract shall also be calculated and shall be adjusted as follows:

Amount Payable ($)	$7,00,000
Amount receivable after 3 months	$ 4,50,000
Net Amount payable	$2,50,000
Applicable Rate	₹ 48.45
Amount payable in (₹) (A)	₹ 1,21,12,500
Profit on cancellation of Forward cost (48.90 – 48.30) × 4,50,000 (B)	₹ 2,70,000
Thus net amount payable in (₹) (A) + (B)	₹ 1,18,42,500

Since net payable amount is least in case of second option, hence the company should lag receivables.

Note: In the question it has not been clearly mentioned that whether quotes given for 2 and 3 months (in points terms) are premium points or direct quotes. Although above solution is based on the assumption that these are direct quotes, but students can also consider them as premium points and solve the question accordingly.

(b) $\beta_p = \sum_{i=1}^{4} x_i\beta_i$

= 1.60 x 0.25 + 1.15 x 0.30 + 1.40 x 0.25 + 1.00 x 0.20

= 0.4 + 0.345 + 0.35 + 0.20 = 1.295

The Standard Deviation (Risk) of the portfolio is

$= [(1.295)^2(18)^2+(0.25)^2(7)^2+(0.30)^2(11)^2+(0.25)^2(3)^2+(0.20)^2(9)^2)]$

$= [543.36 + 3.0625 + 10.89 + 0.5625 + 3.24] = [561.115]^{½} = 23.69\%$

Alternative Answer

The variance of Security's Return

$\sigma^2 = \beta_i^2 \sigma^2_m + \sigma^2_{\varepsilon i}$

Accordingly variance of various securities

		σ^2	Weight(w)	σ^2Xw
L	$(1.60)^2 (18)^2 + 7^2$ =	878.44	0.25	219.61
M	$(1.15)^2 (18)^2 + 11^2$ =	549.49	0.30	164.85
N	$(1.40)^2 (18)^2 + 3^2$ =	644.04	0.25	161.01
K	$(1.00)^2 (18)^2 + 9^2$ =	405.00	0.20	81
		Variance		626.47

SD = $\sqrt{626.47}$ = 25.03

Question 6

(a) Sumana wanted to buy shares of EIL which has a range of ₹ 411 to ₹ 592 a month later. The present price per share is ₹ 421. Her broker informs her that the price of this share can sore up to ₹ 522 within a month or so, so that she should buy a one month CALL of EIL. In order to be prudent in buying the call, the share price should be more than or at least ₹ 522 the assurance of which could not be given by her broker.

Though she understands the uncertainty of the market, she wants to know the probability of attaining the share price ₹ 592 so that buying of a one month CALL of EIL at the execution price of ₹ 522 is justified. Advice her. Take the risk free interest to be 3.60% and $e^{0.036} = 1.037$. *(8 Marks)*

(b) A Mutual Fund Co. has the following assets under it on the close of business as on:

Company	*No. of Shares*	*1st February 2012 Market price per share* ₹	*2nd February 2012 Market price per share* ₹
L Ltd	*20,000*	*20.00*	*20.50*
M Ltd	*30,000*	*312.40*	*360.00*
N Ltd	*20,000*	*361.20*	*383.10*
P Ltd	*60,000*	*505.10*	*503.90*

Total No. of Units 6,00,000

(i) Calculate Net Assets Value (NAV) of the Fund.

(ii) Following information is given:

Assuming one Mr. A, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund manager of this company purchases 8,000 shares of M Ltd; and the balance amount is held in Bank. In such a case, what would be the position of the Fund?

(iii) Find new NAV of the Fund as on 2nd February 2012. *(8 Marks)*

Answer

(a) $p = \frac{e^{rt} - d}{u - d}$

$e^{rt} = e^{0.036}$

$d = 411/421 = 0.976$

$u = 592/421 = 1.406$

$p = \frac{e^{0.036} - 0.976}{1.406 - 0.976} = \frac{1.037 - 0.976}{0.43}$

$\frac{0.061}{0.43} = 0.1418$

Thus probability of rise in price 0.1418

(b) (i) NAV of the Fund.

$= \frac{₹\ 4,00,000 + ₹\ 93,72,000 + ₹\ 72,24,000 + ₹\ 3,03,06,000}{6,00,000}$

$= \frac{₹\ 4,73,02,000}{6,00,000} = ₹\ 78.8366$ rounded to ₹ 78.84

(ii) The revised position of fund shall be as follows:

Shares	No. of shares	Price	Amount (₹)
L Ltd.	20,000	20.00	4,00,000
M Ltd.	38,000	312.40	1,18,71,200
N Ltd.	20,000	361.20	72,24,000
P Ltd.	60,000	505.10	3,03,06,000
Cash			5,00,800
			5,03,02,000

$$\text{No. of units of fund} = 6,00,000 + \frac{30,00,000}{78.8366} = 6,38,053$$

(iii) On 2nd February 2012, the NAV of fund will be as follows:

Shares	No. of shares	Price	Amount (₹)
L Ltd.	20,000	20.50	4,10,000
M Ltd.	38,000	360.00	1,36,80,000
N Ltd.	20,000	383.10	76,62,000
P Ltd.	60,000	503.90	3,02,34,000
Cash			5,00,800
			5,24,86,800

$$\text{NAV as on 2nd February 2012} = \frac{₹\ 5,24,86,800}{6,38,053} = ₹\ 82.26 \text{ per unit}$$

Question 7

*Write short notes on any **four** of the following:*

(a) Zero coupon bonds

(b) Interest swap

(c) Inter-Bank Participation Certificate

(d) Meaning and Advantages of Netting

(e) Nostro, Vostro and Loro Accounts *(4 × 4 = 16 Marks)*

Answer

(a) As name indicates these bonds do not pay interest during the life of the bonds. Instead, zero coupon bonds are issued at discounted price to their face value, which is the amount a bond will be worth when it matures or comes due. When a zero coupon bond

matures, the investor will receive one lump sum (face value) equal to the initial investment plus interest that has been accrued on the investment made. The maturity dates on zero coupon bonds are usually long term. These maturity dates allow an investor for a long range planning. Zero coupon bonds issued by banks, government and private sector companies. However, bonds issued by corporate sector carry a potentially higher degree of risk, depending on the financial strength of the issuer and longer maturity period, but they also provide an opportunity to achieve a higher return.

(b) A swap is a contractual agreement between two parties to exchange, or "swap," future payment streams based on differences in the returns to different securities or changes in the price of some underlying item. Interest rate swaps constitute the most common type of swap agreement. In an interest rate swap, the parties to the agreement, termed the swap counterparties, agree to exchange payments indexed to two different interest rates. Total payments are determined by the specified notional principal amount of the swap, which is never actually exchanged. Financial intermediaries, such as banks, pension funds, and insurance companies, as well as non-financial firms use interest rate swaps to effectively change the maturity of outstanding debt or that of an interest-bearing asset.

Swaps grew out of parallel loan agreements in which firms exchanged loans denominated in different currencies.

(c) The IBPCs are short-term instruments to even-out the short-term liquidity within the banking system. The primary objective is to provide some degree of flexibility in the credit portfolio of banks and to smoothen the consortium arrangements. The IBPC can be issued by scheduled commercial bank and can be subscribed to 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.

The participation can be issued in two types, viz. with and without risk to the lender. While the participation without it can be issued for a period not exceeding 90 days. Participation is now with risk for a period between 91 days and 180 days.

The interest rate on IBPC is freely determined in the market. The certificates are neither transferable nor prematurely redeemable by the issuing bank. In the case of the bank issuing IBPC with risk, the aggregate amount of participation would be reduced from the aggregate advance outstanding.

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.

(d) It is a technique of optimising cash flow movements with the combined efforts of the subsidiaries thereby reducing administrative and transaction costs resulting from currency conversion. There is a co-ordinated international interchange of materials, finished products and parts among the different units of MNC with many subsidiaries buying /selling from/to each other. Netting helps in minimising the total volume of inter-company fund flow.

Advantages derived from netting system includes:

1) Reduces the number of cross-border transactions between subsidiaries thereby decreasing the overall administrative costs of such cash transfers

2) Reduces the need for foreign exchange conversion and hence decreases transaction costs associated with foreign exchange conversion.

3) Improves cash flow forecasting since net cash transfers are made at the end of each period

4) Gives an accurate report and settles accounts through co-ordinated efforts among all subsidiaries.

(e) In interbank transactions, foreign exchange is transferred from one account to another account and from one centre to another centre. Therefore, the banks maintain three types of current accounts in order to facilitate quick transfer of funds in different currencies. These accounts are Nostro, Vostro and Loro accounts meaning “our”, “your” and “their”. A bank’s foreign currency account maintained by the bank in a foreign country and in the home currency of that country is known as Nostro Account or “our account with you”. For example, An Indian bank’s Swiss franc account with a bank in Switzerland. Vostro account is the local currency account maintained by a foreign bank/branch. It is also called “your account with us”. For example, Indian rupee account maintained by a bank in Switzerland with a bank in India. The Loro account is an account wherein a bank remits funds in foreign currency to another bank for credit to an account of a third bank.