

PAPER – 2 : STRATEGIC FINANCIAL MANAGEMENT

Question No.1 is compulsory.

Candidates are also required to answer any **five** questions out of the remaining **six** questions.

Working notes should form part of the respective answers.

Question 1

- (a) Summit Ltd., an All Equity Company, has a PAT of ₹ 300 Crores and 15,00,000 Shares of ₹ 10 each outstanding at the end of financial year. Its Cost of Capital is 13% and Rate of Return is 17%. Ascertain the value of the Company under Walter's Model, if payout ratio is (a) 15%, (b) 30%, (c) 60%, and (d) 90%. Also draw out the inference from the values obtained under different cases. **(5 Marks)**

- (b) Sandy Ltd. has a book value per share of ₹ 140.00. Its return on equity is 16% and follows a policy of retaining 60 percent of its annual earnings. What is the price of its share now if the opportunity cost of capital is 18 percent?

[Adopt perpetual growth model to arrive at the solution]. **(5 Marks)**

- (c) English Bank Ltd. sold Hong Kong Dollar 10 Crores value spot to its customer at ₹ 9.70 and covered itself in the London market on the same day, when the exchange rates were US \$ 1 = HK \$ 7.7506-7.7546. Local interbank market rates for US \$ were Spot US \$ 1 = ₹ 74.70 – 74.85. Calculate the cover rate and ascertain the profit or loss on the transaction. Ignore brokerage.

Figures are to be rounded off to 4 decimals. **(5 Marks)**

- (d) Herbal Box is a small but profitable producer of beauty cosmetics using the plant Aloe Vera. Though it is not a high-tech business, yet Herbal's earnings have averaged around ₹ 18.5 lakhs after tax, mainly on the strength of its patented beauty cream to remove the pimples.

The patent has nine years to run, and Herbal Box has been offered ₹ 50 lakhs for the patent rights. Herbal's assets include ₹ 50 lakhs of property, plant and equipment, and ₹ 25 lakhs of working capital. However, the patent is not shown on the books of Herbal Box. Assuming Herbal's cost of capital being 14 percent, calculate its Economic Value Added (EVA). **(5 Marks)**

Answer

- (a) Walter's model is given by

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

Where,

P = Market price per share.

E	=	Earnings per share
D	=	Dividend per share
r	=	Return earned on investment
K_e	=	Cost of equity capital

EPS = PAT/ No. of shares

= ₹ 300 Crores/ 15,00,000 = ₹ 2,000

(i) Value of the Company if payout ratio is 15%

$$P = \frac{300 + (2000 - 300) \times \frac{0.17}{0.13}}{0.13} = \frac{300 + 1700 \times \frac{0.17}{0.13}}{0.13} = ₹ 19,408.28$$

Value of Summit Ltd.

₹ 19,408.28 x 15,00,000 = ₹ 2,911.2420 Crores

(ii) Value of the Company if payout ratio is 30%

$$P = \frac{600 + (2000 - 600) \times \frac{0.17}{0.13}}{0.13} = \frac{600 + 1400 \times \frac{0.17}{0.13}}{0.13} = ₹ 18,698.22$$

Value of Summit Ltd.

₹ 18,698.22 x 15,00,000 = ₹ 2,804.733 Crores

(iii) Value of the Company if payout ratio is 60%

$$P = \frac{1200 + (2000 - 1200) \times \frac{0.17}{0.13}}{0.13} = \frac{1200 + 800 \times \frac{0.17}{0.13}}{0.13} = ₹ 17,278.10$$

Value of Summit Ltd.

₹ 17,278.10 x 15,00,000 = ₹ 2,591.72 Crores

(iv) Value of the Company if payout ratio is 90%

$$P = \frac{1800 + (2000 - 1800) \times \frac{0.17}{0.13}}{0.13} = \frac{1800 + 200 \times \frac{0.17}{0.13}}{0.13} = ₹ 15,857.99$$

Value of Summit Ltd.

₹ 15,857.99 x 15,00,000 = ₹ 2,378.70 Crores

Decision: With the increase in payout ratio, the value of company is decreasing.

- (b) The company earnings and dividend per share after a year are expected to be:

$$\text{EPS} = ₹ 140 \times 0.16 = ₹ 22.40$$

$$\text{Dividend} = 0.40 \times 22.4 = ₹ 8.96$$

The growth in dividend would be:

$$g = 0.60 \times 0.16 = 0.096$$

$$P_0 = \frac{D_1}{K_e - g}$$

$$P_0 = \frac{8.96}{0.18 - 0.096}$$

$$P_0 = ₹ 106.67$$

- (c) The bank (Dealer) covers itself by buying from the market at market selling rate.

Rupee – Dollar selling rate	= ₹ 74.85
Dollar – Hong Kong Dollar	= HK \$ 7.7506
Rupee – Hong Kong cross rate	= ₹ 74.85/ 7.7506
Cover Rate	= ₹ 9.6573
Profit / Loss to the Bank	
Amount received from customer (10 crore × 9.70)	₹ 97,00,00,000
Amount paid on cover deal (10 crore × 9.6573)	<u>₹ 96,57,30,000</u>
Profit to Bank	<u>₹ 42,70,000</u>

- (d) EVA = Income Earned – (Cost of Capital x Total Investment)

Total Investments

	Amount (₹ in Lakhs)
Working Capital	25.00
Property, Plant & Equipments	50.00
Patent Rights	50.00
Total	125.00

$$\begin{aligned} \text{EVA} &= \text{Profit Earned} - \text{WACC} \times \text{Invested Capital} \\ &= ₹ 18.5 \text{ Lakhs} - 14\% \times ₹ 125 \text{ Lakhs} \\ &= ₹ 1.00 \text{ Lakhs} \end{aligned}$$

Question 2

(a) Following information is available for consideration:

BSE Index	25,000
Value of portfolio	₹ 50,50,000
Risk free interest rate	9% p.a.
Dividend yield on Index	6% p.a.
Beta of portfolio	1.5

We assume that a future contract on the BSE index with 4 months maturity is used to hedge the value of portfolio over next 3 months. One future contract is for delivery of 50 times the index.

Based on the above information calculate:

- (i) Price of future contract.
(ii) Gain on short futures position if index turns out to be 22,500 in 3 months.

Note: Daily compounding (exponential) formula is not required to be used. **(8 Marks)**

(b) An importer booked a forward contract with his bank on 1st September, for US \$ 5,00,000 due on 1st February @ ₹ 82.60. The bank covered its position in the market @ ₹ 80.90

The exchange rates for dollar in the interbank market on 1st February and 15th February were:

	1 st February	15 th February
Spot USD 1 =	₹ 80.10/18	₹ 80.01/12
Spot/February	₹ 80.35/45	₹ 80.10/30
March	₹ 80.55/65	₹ 80.45/55
April	₹ 80.70/80	₹ 80.65/75
May	₹ 80.85/95	₹ 80.80/90

Exchange margin is 0.18% and interest on outlay of funds is @ 15%. The importer requested on 15th February for the extension of contract with due date on 1st May.

Rates rounded to 2 decimals.

On 1st February, Bank swaps by selling spot and buying one month forward.

Calculate:

- (i) Cancellation rate.
(ii) Amount payable on \$5,00,000.
(iii) Swap loss.
(iv) Interest on outlay of funds, if any.

(v) New contract rate.

(vi) Total cost.

(Note: Assume 365 days in a Year)

(8 Marks)

Answer

(a) (i) Current future price of the index = $25000 + 25000 (0.09 - 0.06) \frac{4}{12}$
 $= 25000 + 250 = 25250$
 \therefore Price of the future contract = ₹ 50 x 25,250 = ₹ 12,62,500

(ii) Hedge Ratio = $\frac{50,50,000}{12,62,500} \times 1.5 = 6$ contracts

Index after three months turns out to be 22500

Future price will be = $22500 + 22500 (0.09 - 0.06) \times \frac{1}{12} = 22556.25$

Therefore, Gain from the short futures position is = $6 \times (25250 - 22556.25) \times 50$
 $= ₹ 8,08,125$

(b) (i) Cancellation Rate:

The forward sale contract shall be cancelled at Spot TT Purchase for \$ prevailing on the date of cancellation as follows:

\$/ ₹ Market Buying Rate	₹ 80.01
Less: Exchange Margin @ 0.18%	₹ 0.14
	₹ 79.87

(ii) Amount payable on \$ 5,00,000

Bank sells \$ 5,00,000 @ ₹ 82.60	₹ 4,13,00,000
Bank buys \$ 5,00,000 @ ₹ 79.87	₹ 3,99,35,000
Amount payable by customer	₹ 13,65,000

(iii) Swap Loss

On 1st February the bank does a swap sale of \$ at market buying rate of ₹ 80.10 and forward purchase for one month at market selling rate of ₹ 80.45.

Bank buys at	₹ 80.45
Bank sells at	₹ 80.10
Amount payable by customer	₹ 0.35

Swap Loss for \$ 5,00,000 in ₹ = ₹ 1,75,000

(iv) Interest on Outlay of Funds

On 1st February, the bank receives delivery under cover contract at ₹ 80.90 and sell spot at ₹ 80.10.

Bank buys at	₹ 80.90
Bank sells at	₹ 80.10
Amount payable by customer	₹ 0.80

Outlay for \$ 5,00,000 in ₹ 4,00,000

Interest on ₹ 4,00,000 @ 15% for 15 days ₹ 2,465.75

(v) New Contract Rate

The contract will be extended at current rate

\$/ ₹ Market forward selling Rate for April	₹ 80.75
Add: Exchange Margin @ 0.18%	₹ 0.14
	₹ 80.89

Rounded off to ₹ 80.90

(vi) Total Cost

Cancellation Charges	₹ 13,65,000.00
Swap Loss	₹ 1,75,000.00
Interest	₹ 2,465.75
	₹ 15,42,465.75

Question 3

(a) ACE Mutual Fund has the following assets under it on the close of business as on:

Company	No. of Shares	1 st August, 2019	2 nd August, 2019
		Market Price Per Share	Market Price Per Share
		₹	₹
Q Ltd.	2,000	200.00	205.00
R Ltd.	30,000	312.40	360.00
S Ltd.	40,000	180.60	191.55
T Ltd.	60,000	505.10	503.90

Total No. of Units issued by the Mutual Fund is 6,00,000.

(i) Calculate Net Assets Value (NAV) per Unit as on 1st August, 2019.

(ii) Following information is also given:

Assuming that Mr. Tarun, submits a cheque of ₹ 30,00,000 to the Mutual Fund and the Fund Manager of this entity purchases 8,000 shares of R Ltd and the balance amount is held in Bank. In such a situation, what would be the position of the Fund?

(iii) Find new NAV per Unit as on 2nd August, 2019. **(8 Marks)**

(b) ABC Ltd. requires ₹ 15,00,000 for a project. Useful life of the project is 5 years. Salvage value is Nil. Depreciation Charge is ₹ 3,00,000 p.a. Expected revenue and costs (excluding depreciation) ignoring inflation are as under:

Year	1	2	3	4	5
Revenues	₹ 8,00,000	₹ 9,00,000	₹ 10,00,000	₹ 11,00,000	₹ 12,00,000
Costs	₹ 3,00,000	₹ 4,00,000	₹ 5,00,000	₹ 6,00,000	₹ 6,00,000

Tax Rate @ 40%. Cost of Capital @ 12% (including inflation premium).

Calculate NPV of the project if inflation rates for revenues & costs are as follows:

Year	Revenues	Costs
1	12%	14%
2	11%	13%
3	10%	12%
4	9%	11%
5	8%	10%

(Round off the amount to nearest rupee)

PVF @ 12% is to be taken as :

Year	1	2	3	4	5
	0.893	0.797	0.712	0.636	0.567

(8 Marks)

Answer

(a) (i) NAV of the Fund

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

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

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

Shares	No. of shares	Price	Amount (₹)
Q Ltd.	2,000	200.00	4,00,000
R Ltd.	38,000	312.40	1,18,71,200
S Ltd.	40,000	180.60	72,24,000
T Ltd.	60,000	505.10	3,03,06,000
Cash			<u>5,00,800</u>
			<u>5,03,02,000</u>

$$\text{Cash} = 30,00,000 - 8000 \times 312.40 = 5,00,800$$

$$\text{No. of units of fund} = 6,00,000 + \frac{30,00,000}{78.84} = 6,38,052$$

(iii) On 2nd August 2019, the NAV of fund will be as follows:

Shares	No. of shares	Price	Amount (₹)
Q Ltd.	2,000	205.00	4,10,000
R Ltd.	38,000	360.00	1,36,80,000
S Ltd.	40,000	191.55	76,62,000
T Ltd.	60,000	503.90	3,02,34,000
Cash			<u>5,00,800</u>
			<u>5,24,86,800</u>

$$\text{NAV as on 2nd August 2019} = \frac{\text{₹ } 5,24,86,800}{6,38,052} = \text{₹ } 82.26 \text{ per unit}$$

(b) (i) Inflation adjusted Revenues

Year	Revenues (₹)	Revenues (Inflation Adjusted) (₹)
1	8,00,000	8,00,000 (1.12) = 8,96,000
2	9,00,000	9,00,000 (1.12) (1.11) = 11,18,880
3	10,00,000	10,00,000 (1.12) (1.11) (1.10) = 13,67,520
4	11,00,000	11,00,000 (1.12) (1.11) (1.10) (1.09) = 16,39,656
5	12,00,000	12,00,000 (1.12) (1.11) (1.10) (1.09) (1.08) = 19,31,813

(ii) Inflation adjusted Costs

Year	Costs (₹)	Costs (Inflation Adjusted) (₹)
1	3,00,000	3,00,000(1.14) = 3,42,000
2	4,00,000	4,00,000(1.14) (1.13) = 5,15,280
3	5,00,000	5,00,000(1.14) (1.13) (1.12) = 7,21,392
4	6,00,000	6,00,000(1.14) (1.13) (1.12) (1.11) = 9,60,894
5	6,00,000	6,00,000(1.14) (1.13) (1.12) (1.11) (1.10) = 10,56,984

(iii) Tax Benefit on Depreciation = ₹ 3,00,000 x 0.40 = ₹ 1,20,000

(iv) Net Profit after Tax

Year	Revenues (Inflation Adjusted) (₹) (1)	Costs (Inflation Adjusted) (₹) (2)	Net Profit (₹) (3) =(1) -(2)	Tax (₹) (4) = 40% of (3)	Profit after Tax (₹) (3) - (4)
1	8,96,000	3,42,000	5,54,000	2,21,600	3,32,400
2	11,18,880	5,15,280	6,03,600	2,41,440	3,62,160
3	13,67,520	7,21,392	6,46,128	2,58,451	3,87,677
4	16,39,656	9,60,894	6,78,762	2,71,505	4,07,257
5	19,31,813	10,56,984	8,74,829	3,49,932	5,24,897

(iv) Present Value of Cash Inflows

Year	Net Profit after tax (₹)	Tax Benefit on Depreciation (₹)	Cash Inflow (₹)	PVF@ 12%	PV (₹)
1	3,32,400	1,20,000	4,52,400	0.893	4,03,993
2	3,62,160	1,20,000	4,82,160	0.797	3,84,282
3	3,87,677	1,20,000	5,07,677	0.712	3,61,466
4	4,07,257	1,20,000	5,27,257	0.636	3,35,335
5	5,24,897	1,20,000	6,44,897	0.567	3,65,657
					18,50,733

NPV = ₹ 18,50,733 – ₹ 15,00,000 = ₹ 3,50,733

Question 4

- (a) The credit sales and receivables of Decent Ltd. at the end of the year are estimated at ₹ 730 lakhs and ₹ 90 lakhs respectively. The variable overdraft interest rate at an average is 6% p.a.

Decent Ltd. is considering a factoring proposal for its receivables on a non-recourse basis at an annual fee of 1.10% of credit sales.

As a result, Decent Ltd. will save ₹ 1.60 lakhs per annum in administrative cost and ₹ 5.60 lakhs per annum as bad debts.

The factor will maintain a receivables collection period of 30 days and will provide 80% of receivables as advance at an interest rate of 7.5% per annum. Assume 365 days in a year for the purpose of calculation of receivables.

You are required to evaluate the viability of the factoring proposal. **(8 Marks)**

- (b) MK Finance Ltd., a Leasing Company, has been approached by a prospective customer intending to acquire a machine having a cash down price of ₹ 800 lakhs. In order to leverage his tax position, the customer has requested a quote for a 3-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 is to be assumed to be on WDV basis at 25% and marginal tax rate of MK Finance is 35%. The target rate of return for MK Finance on the transaction is 12%. You are required to calculate the lease rents to be quoted for the lease for 3 years.

Discounting factors @ 12% is to be taken as:

Year	1	2	3	
	0.893	0.797	0.712	(8 Marks)

Answer

(a)

Particulars	₹
Estimated Receivables	90,00,000
Estimated Receivables under Factor $\left(7,30,00,000 \times \frac{30}{365} \right)$	60,00,000
Reduction in Receivables (₹ 90,00,000 – ₹ 60,00,000)	30,00,000

Total Savings (A)

Reduction in finance costs	₹ 30,00,000 @ 6%	1,80,000
Saving of Administration costs		1,60,000
Saving of Bad debts		5,60,000
Total		9,00,000

Total Cost of Factoring (B)

Interest on advances by Factor		
Advances 60,00,000 @ 80%	₹ 48,00,000	
Interest on ₹ 48,00,000 @ 7.5%	₹ 3,60,000	
Overdraft Interest rate 6%	<u>(₹ 2,88,000)</u>	72,000
Charges payable to Factor (₹ 7,30,00,000 @ 1.1%)		<u>8,03,000</u>
Total		<u>8,75,000</u>

Net Saving (A) – (B) 25,000.00

Since Net Saving is positive the proposal is viable and can be accepted.

(b) Calculation of depreciation tax shield

(₹ in Lakhs)

Year	Cost / WDV	Dep. @ 25 %	Tax shield @ 0.35	PVF	PV of dep. tax shield
1	800.00	200.00	70.00	0.893	62.51
2	600.00	150.00	52.50	0.797	41.8425
3	450.00	112.50	39.375	0.712	<u>28.035</u>
					<u>132.3875</u>

Capital sum to be placed on lease (₹ Lakhs)

Cash down price 800.00

Less: PV of depreciation tax shield 132.3875

To be placed on lease 667.6125

Let the normal annual lease rent were to be “x” then

Year	Post tax	PVF	PV of cash flow
1	3 * (1 - 0.35) or 1.95x	0.893	1.74135 x
2	2 * (1 - 0.35) or 1.30x	0.797	1.0361x
3	1 * (1 - 0.35) or 0.65x	0.712	<u>0.4628x</u>
			<u>3.24025x</u>

Value of x = ₹ 667.6125 lakhs / 3.24025 i.e. ₹ 206.037 lakhs

Year wise lease rental will be

₹ in lakhs		
Year 1	3 × 206.037	618.111
Year 2	2 × 206.037	412.074
Year 3	1 × 206.037	206.037

Question 5

- (a) Mayuri is interested to construct a Portfolio of Securities X and Y. She has collected the following information:

	X	Y
Expected Return (ER)	19%	23%
Risk (σ)	14%	18%

Mayuri has 5 Portfolio options of X and Y as follows:

- (i) 50% of funds in each X and Y
- (ii) 75% of funds in X and 25% in Y
- (iii) 25% of funds in X and 75% in Y
- (iv) 60% of funds in X and 40% in Y
- (v) 35% of funds in X and 65% in Y

Co-efficient of correlation (r) between X and Y is 0.16. You are required to calculate :

- (i) Expected Return under different Portfolio Options.
 - (ii) Risk Factor associated with these Portfolio Options.
 - (iii) Which Portfolio is best from the point of view of Risk?
 - (iv) Which Portfolio is best from the point of view of Return? **(8 Marks)**
- (b) Mr. P established the following spread on the Coastal Corporation's stock:
- (i) Purchased one 3-month call option with a premium of ₹ 6.5 and an Exercise price of ₹ 110.
 - (ii) Purchased one 3-month put option with a premium of ₹ 10 and an Exercise price of ₹ 90.

Coastal Corporation's stock is currently selling at ₹ 100. Determine profit or loss, if the price of Coastal Corporation's stock:

- (i) Remains at ₹ 100 after 3 months.
- (ii) Falls at ₹ 70 after 3 months.
- (iii) Rises to ₹ 138 after 3 months.

Assume the size of option is 1,000 shares of Coastal Corporation.

(8 Marks)

Answer

- (a) We have $E_p = W_1E_1 + W_2E_2 + \dots + W_nE_n$

$$\text{and for standard deviation } \sigma_p^2 = \sum_{i=1}^n \sum_{j=1}^n w_i w_j \sigma_{ij}$$

$$\sigma_p^2 = \sum_{i=1}^n \sum_{j=1}^n w_i w_j \rho_{ij} \sigma_i \sigma_j$$

Two asset portfolio

$$\sigma_p^2 = w_1^2 \sigma_1^2 + w_2^2 \sigma_2^2 + 2 w_1 w_2 \sigma_1 \sigma_2 \rho_{12}$$

Or

$$\sigma_p = \sqrt{w_1 \sigma_1 + w_2 \sigma_2 + 2 w_1 w_2 \sigma_1 \sigma_2 \rho_{12}}$$

Substituting the respective values we get,

(i) 50% of funds in each of X and Y

$$E_p = 0.50 \times 19\% + 0.50 \times 23\% = 21\%$$

$$\sigma_p^2 = (0.50)^2(14\%)^2 + (0.50)^2(18\%)^2 + 2(0.50)(0.50)(0.16)(14\%)(18\%)$$

$$\sigma_p^2 = 49 + 81 + 20.16 = 150.16$$

$$\sigma_p = 12.25\%$$

(ii) 75% in X and 25% in Y

$$E_p = 0.75 \times 19\% + 0.25 \times 23\% = 20\%$$

$$\sigma_p^2 = (0.75)^2(14\%)^2 + (0.25)^2(18\%)^2 + 2(0.75)(0.25)(0.16)(14\%)(18\%)$$

$$\sigma_p^2 = 110.25 + 20.25 + 15.12 = 145.62$$

$$\sigma_p = 12.07\%$$

(iii) 25% in X and 75% in Y

$$E_p = 0.25 \times 19\% + 0.75 \times 23\% = 22\%$$

$$\sigma_p^2 = (0.25)^2(14\%)^2 + (0.75)^2(18\%)^2 + 2(0.25)(0.75)(0.16)(14\%)(18\%)$$

$$\sigma_p^2 = 12.25 + 182.25 + 15.12 = 209.62$$

$$\sigma_p = 14.48\%$$

(iv) 60% in X and 40% in Y

$$E_p = 0.60 \times 19\% + 0.40 \times 23\% = 20.6\%$$

$$\sigma_p^2 = (0.60)^2(14\%)^2 + (0.40)^2(18\%)^2 + 2(0.60)(0.40)(0.16)(14\%)(18\%)$$

$$\sigma_p^2 = 70.56 + 51.84 + 19.35 = 141.75$$

$$\sigma_p = 11.91\%$$

- (v) 35% in X and 65% in Y

$$E_p = 0.35 \times 19\% + 0.65 \times 23\% = 21.6\%$$

$$\sigma_p^2 = (0.35)^2(14\%)^2 + (0.65)^2(18\%)^2 + 2(0.35)(0.65)(0.16)(14\%)(18\%)$$

$$\sigma_p^2 = 24.01 + 136.89 + 18.35 = 179.25$$

$$\sigma_p = 13.39\%$$

Portfolio	(i)	(ii)	(iii)	(iv)	(v)
Return	21	20	22	20.6	21.6
σ	12.25	12.07	14.48	11.91	13.39

In the terms of return, we see that portfolio (iii) is the best portfolio.

In terms of risk we see that portfolio (iv) is the best portfolio.

- (b) (i) Total premium paid on purchasing a call and put option

$$= (\text{₹ } 6.50 \text{ per share} \times 1000) + (\text{₹ } 10 \text{ per share} \times 1000).$$

$$= \text{₹ } 6,500 + \text{₹ } 10,000 = \text{₹ } 16,500$$

In this case, Mr. P exercises neither the call option nor the put option as both will result in a loss for him.

$$\text{Ending value} = -\text{₹ } 16,500 + \text{zero gain} = -\text{₹ } 16,500$$

$$\text{i.e. Net loss} = \text{₹ } 16,500$$

- (ii) Since the price of the stock is below the exercise price of the call, the call will not be exercised. Only put is valuable and is exercised.

$$\text{Total premium paid} = \text{₹ } 16,500$$

$$\text{Ending value} = -\text{₹ } 16,500 + \text{₹ } [(90 - 70) \times 1000] = -\text{₹ } 16,500 + \text{₹ } 20,000 = \text{₹ } 3,500$$

$$\therefore \text{Net gain} = \text{₹ } 3,500$$

- (iii) In this situation, the put is worthless, since the price of the stock exceeds the put's exercise price. Only call option is valuable and is exercised.

$$\text{Total premium paid} = \text{₹ } 16,500$$

$$\text{Ending value} = -\text{₹ } 16,500 + \text{₹ } [(138 - 110) \times 1000]$$

$$\therefore \text{Net Gain} = -\text{₹ } 16,500 + \text{₹ } 28,000 = \text{₹ } 11,500$$

Question 6

- (a) The following information is provided relating to the acquiring company Efficient Ltd. and the target company Healthy Ltd.:

Particulars	Efficient Ltd.	Healthy Ltd.
No. of Shares (F.V. ₹ 10 each)	20 Lakhs	15 Lakhs
Market Capitalization	₹ 800 Lakhs	₹ 1,200 Lakhs
P/E Ratio (times)	10	5
Reserves and Surplus	₹ 400 Lakhs	₹ 273 Lakhs
Promoter's Holding (No. of shares)	8.65 Lakhs	9 Lakhs

Board of Directors of both the companies have decided to give a fair deal to the shareholders and accordingly for swap ratio the weights are decided as 45%, 20% and 35% respectively for Earning, Book Value and Market Price of share of each company.

Required:

- (i) Calculate the swap ratio and also calculate Promoter's holding % after acquisition.
(ii) What is the EPS of Efficient Ltd. after acquisition of Healthy Ltd.?
(iii) What is the expected market price per share and market capitalization of Efficient Ltd. after acquisition, assuming P/E ratio of Efficient Ltd. remains unchanged?
(iv) Calculate free float market capitalization of the merged firm. **(10 Marks)**
- (b) From the following information, compute the effective rate of interest per annum as well as the total cost of funds to Nirmal Ltd., which is planning a Commercial Paper (CP) issue:

Issue Price of CP	₹ 4,87,750	
Face Value	₹ 5,00,000	
Maturity Period	3 Months	
Issue Expenses:		
Brokerage	0.15% for 3 months	
Rating Charges	0.55% p.a.	
Stamp Duty	0.20% for 3 months	(6 Marks)

Answer

- (a) (i) **Swap Ratio**

	Efficient Ltd.	Healthy Ltd.
Market capitalisation	800 lakhs	1200 lakhs

No. of shares	20 lakhs	15 lakhs
Market Price per share	₹ 40	₹ 80
P/E ratio	10	5
EPS	₹ 4	₹ 16
Profit	₹ 80 lakh	₹ 240 lakh
Share capital	₹ 200 lakh	₹ 150 lakh
Reserves and surplus	<u>₹ 400 lakh</u>	<u>₹ 273 lakh</u>
Total	<u>₹ 600 lakh</u>	<u>₹ 423 lakh</u>
Book Value per share	₹ 30	₹ 28.20

Calculation of Swap Ratio

EPS	1 : 4 i.e.	$4.0 \times 45\%$	1.80
Book value	1 : 0.94 i.e.	$0.94 \times 20\%$	0.188
Market price	1 : 2 i.e.	$2.0 \times 35\%$	0.70
		Total	2.688

Swap ratio is for every one share of Healthy Ltd., to issue 2.688 shares of Efficient Ltd.

Hence, total no. of shares to be issued $15 \text{ lakh} \times 2.688 = 40.32 \text{ lakh shares}$

Promoter's holding = $8.65 \text{ lakh shares} + (9 \times 2.688 = 24.192 \text{ lakh shares}) = 32.842 \text{ lakh}$

i.e. Promoter's holding % is $(32.842 \text{ lakh} / 60.32 \text{ lakh}) \times 100 = 54.45\%$.

Calculation of EPS, Market price, Market capitalization and free float market capitalization.

- (ii) Total No. of shares $20 \text{ lakh} + 40.32 \text{ lakh} = 60.32 \text{ lakh}$
 EPS after merger $\frac{\text{Total Profit}}{\text{No. of Shares}} = \frac{80 \text{ lakh} + 240 \text{ lakh}}{60.32} = \frac{320 \text{ lakh}}{60.32}$
 $= ₹ 5.305$
- (iii) Expected market price $\text{EPS } 5.305 \times \text{P/E } 10 = ₹ 53.05$
 Market capitalization $= ₹ 53.05 \text{ per share} \times 60.32 \text{ lakh shares}$
 $= ₹ 3,199.98 \text{ lakh}$
- (iv) Free float of market capitalization $= ₹ 53.05 \text{ per share} \times (60.32 \text{ lakh} \times 45.55\%)$
 $= ₹ 1457.59 \text{ lakh}$

(b) Nominal Interest or Bond Equivalent Yield = $\left[\frac{F-P}{P} \right] \times \frac{12}{M} \times 100$

Where

F= Face Value

P= Issue Price

$$= \frac{5,00,000 - 4,87,750}{4,87,750} \times \frac{12}{3} \times 100 = 0.025115 \times 4 \times 100 = 10.046 = 10.05\% \text{ p.a.}$$

$$\text{Effective interest rate} = \left[1 + \frac{0.1005}{4} \right]^4 - 1 = 10.435\% \text{ p.a.}$$

Cost of Funds to the Company

Effective Interest	10.435%
Brokerage (0.150 × 4)	0.60%
Rating Charge	0.55%
Stamp duty (0.20 × 4)	<u>0.80%</u>
	<u>12.385%</u>

Question 7

Answer any **four** of the following:

- (a) Explain briefly, how financial policy is linked to strategic management.
- (b) Distinguish between Investment Bank and Commercial Bank.
- (c) Explain briefly the salient features of Foreign Currency Convertible Bonds (FCCBs).
- (d) Discuss about Nostro, Vostro and Loro Accounts.
- (e) Explain Synergy in the context of Mergers and Acquisitions. **(4 x 4 = 16 Marks)**

Answer

- (a) The success of any business is measured in financial terms. Maximising value to the shareholders is the ultimate objective. For this to happen, at every stage of its operations including policy-making, the firm should be taking strategic steps with value-maximization objective. This is the basis of financial policy being linked to strategic management.

The linkage can be clearly seen in respect of many business decisions. For example :

- (i) Manner of raising capital as source of finance and capital structure are the most important dimensions of strategic plan.
- (ii) Cut-off rate (opportunity cost of capital) for acceptance of investment decisions.
- (iii) Investment and fund allocation is another important dimension of interface of strategic management and financial policy.
- (iv) Foreign Exchange exposure and risk management.
- (v) Liquidity management
- (vi) A dividend policy decision deals with the extent of earnings to be distributed and a close interface is needed to frame the policy so that the policy should be beneficial for all.
- (vii) Issue of bonus share is another dimension involving the strategic decision.

Thus from above discussions it can be said that financial policy of a company cannot be worked out in isolation to other functional policies. It has a wider appeal and closer link with the overall organizational performance and direction of growth.

- (b) The fundamental differences between an investment bank and a commercial bank can be outlined as follows:

Investment Banks	Commercial Banks
1. Investment Banks help their clients in raising capital by acting as an intermediary between the buyers and the sellers of securities (stocks or bonds)	1. Commercial Banks are engaged in the business of accepting deposits from customers and lending money to individuals and corporate
2. Investment Banks do not take deposits from customers	2. Commercial banks can legally take deposits from customers.
3. The Investment Banks do not own the securities and only act as an intermediary for smooth transaction of buying and selling securities.	3. Commercial Banks own the loans granted to their customers.
4. Investment Banks earn underwriting commission	4. Commercial banks earn interest on loans granted to their customers.

- (c) FCCBs are important source of raising funds from abroad. Their salient features are –
1. FCCB is a bond denominated in a foreign currency issued by an Indian company which can be converted into shares of the Indian Company denominated in Indian Rupees.
 2. Prior permission of the Department of Economic Affairs, Government of India, Ministry of Finance is required for their issue
 3. There will be a domestic and a foreign custodian bank involved in the issue
 4. FCCB shall be issued subject to all applicable Laws relating to issue of capital by a company.
 5. Tax on FCCB shall be as per provisions of Indian Taxation Laws and Tax will be deducted at source.
 6. Conversion of bond to FCCB will not give rise to any capital gains tax in India.
- (d) 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.

- (e) Synergy may be defined as follows:

$$V (AB) > V (A) + V (B)$$

In other words the combined value of two firms or companies shall be more than their individual value. Synergy is the increase in performance of the combined firm over what the two firms are already expected or required to accomplish as independent firms. This may be result of complimentary services economics of scale or both.

A good example of complimentary activities can be that one company may have a good networking of branches and the other company may have efficient production system.

Thus, the merged companies will be more efficient than individual companies.

On similar lines, economics of large scale is also one of the reasons for synergy benefits. The main reason is that, the large scale production results in lower average cost of production e.g. reduction in overhead costs on account of sharing of central services such as accounting and finances, office executives, top level management, legal, sales promotion and advertisement etc.

These economies can be “real” arising out of reduction in factor input per unit of output, or pecuniary economics are realized from paying lower prices for factor inputs for bulk transactions.

Generally positive value of synergy forms the basis of rationale for the merger and acquisition decision. However, before such decision, cost attached with such merger and acquisition should be evaluated in this light. Accordingly, the net gain from merger and acquisition is as follows:

Net Gain = Value of Synergy – Costs associated with Merger and Acquisition