CA FINAL (OLD SCHEME)
NOVEMBER 2020 – SOLVED EXAM PAPER
STRATEGIC FINANCIAL MANAGEMENT

Question 1(a) [5 Marks]:

Summit Ltd., an All-Equity Company, has a PAT of Rs. 300 Crores and 15,00,000 Shares of Rs. 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 Pay-out Ratio is- (a) 15%, (b) 30%, (c) 60% and (d) 90%. Also draw out the inference from the values obtained under different cases.

Solution

Walter's model is given by

$$P0 = \frac{D + \frac{r}{Ke}(E - D)}{Ke}$$

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
= Rs. 300 Crores/ 15,00,000 = Rs. 2,000

(i) Value of the Company if pay-out ratio is 15%

$$\textbf{Po} = \frac{Rs.300 + \frac{0.17}{0.13}(Rs.2000 - Rs.300)}{0.13} = \textbf{Rs. 19408.26}$$

Value of Summit Ltd.
Rs. 19,408.28 x 15,00,000 = **Rs. 2911.2420 Crores**

(ii) Value of the Company if pay-out ratio is 30%

$$\textbf{Po} = \frac{Rs.600 + \frac{0.17}{0.13}(Rs.2000 - Rs.600)}{0.13} = \textbf{Rs. 18698.22}$$

Value of Summit Ltd.
Rs. 18,698.22 x 15,00,000 = **Rs. 2804.733 Crores**

(iii) Value of the Company if pay-out ratio is 60%

$$\textbf{Po} = \frac{Rs.1200 + \frac{0.17}{0.13}(Rs.2000 - Rs.1200)}{0.13} = \textbf{Rs. 17,278.10}$$

Value of Summit Ltd.
Rs. 17,278.10 x 15,00,000 = **Rs. 2591.72 Crores**

(iv) Value of the Company if pay-out ratio is 90%

$$\textbf{Po} = \frac{Rs.1800 + \frac{0.17}{0.13}(Rs.2000 - Rs.1800)}{0.13} = \textbf{Rs. 15,857.99}$$

Value of Summit Ltd.
Rs. 15,857.99 x 15,00,000 = **Rs. 2378.70 Crores**

Inference: According to Walter's Model, the value of the company is inversely related to Dividend pay-out Ratio. An increase in Dividend Pay-out Ratio leads to decrease in value of the share and value of the company, and vice-versa.

Question 1(b) [5 Marks]:

Sandy Ltd., has a book value per share of Rs. 140.00. Its return on equity is 16% and follows a policy of retaining 60 per cent of its annual earnings. What is the price of its share now if the opportunity cost of capital is 18 per cent.?
(Adopt the perpetual growth model to arrive at your solution).

Solution

$$Po = \frac{D1}{(Ke - g)}$$

In this case,
g = br = Retention Ratio X ROE = 0.60 X 16% = 9.60%
EPS_0 = Book Value per Share X ROE = Rs. 140.00 X 16% = Rs. 22.40
$DPS_0 = EPS_0$ (1-b) = Rs. 22.40 (1-0.6) = Rs. 8.96
$D_1 = D_0(1+g)$ = Rs. 8.96 (1.096) = Rs. 9.82016
Ke = 18%

$$Po = \frac{9.82016}{(0.18 - 0.096)}$$

Therefore, P_0 = **Rs. 116.91**

Note: The problem states that 'Sandy Ltd., **has** a book value per share of Rs. 140.00'. That is, the Book-value per share given is current book value. Hence, the EPS and DPS calculated on the basis of this value represents current year figures. Therefore, Rs 8.96 is D_0.

Question 1(c) [5 Marks]:

English Bank Ltd., sold Hong Kong dollar 10 crores value spot to its customer at Rs. 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 = Rs. 74.70 – 74.85. Calculate the cover rate and ascertain the profit or loss in the transaction. Ignore brokerage.
Figures are to be rounded off to 4 decimals.

Solution

Calculation of Cover-rate:

$(Rs/HK\$)_{Ask} = (Rs/US\$)_{Ask}$ X $(US\$/HK\$)_{Ask}$

So, $(Rs/HK\$)_{Ask}$ = 74.85 X $\frac{1}{7..7506}$ = **9.6573**

Pay-off on the Transaction:

Selling Rate: Rs. 9.70 per HK$
Buying Rate: Rs. 9.6573 per HK$

So, Gain from the transaction: (9.70 – 9.6573) X 10,00,00,000 HK$ = **Rs. 42,70,000**

Question 1(d) [5 Marks]:

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 Rs. 18.5 Lakh 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 Rs. 50 Lakhs for the patent rights. Herbal's assets include Rs. 50 Lakhs of property, plant and equipment and Rs. 25 Lakhs of working capital. However, the patent is not shown in the books of Herbal Box. Assuming Herbal's cost of capital being 14 per cent, calculate its Economic Value Added (EVA).

Solution

EVA = NOPAT – (WACC X CAPITAL EMPLOYED)

A. CAPITAL EMPLOYED

	Rs. in Lakhs
Property, Plant and Equipment	50.00
Working Capital (i.e., Net Current Assets)	25.00
Unrecorded Assets (Patents)	50.00
	125.00

B. WEIGHTED AVERAGE COST OF CAPITAL: 14% (given)

C. NOPAT: Rs. 18.5 Lakhs (given)

Calculation of EVA

EVA = Rs 18.5 Lakhs – (14% of Rs. 125 Lakhs) = **Rs. 1 Lakh**

Question 2(a) [8 Marks]:

BSE Index	25000
Value of Portfolio	Rs. 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 50 times the index. Based on the above information calculate:
(i) Price of futures 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.**

Solution

Question (i):

$F = S_0 \times e^{(r-y)t}$ = Rs. 25000 + [Rs. 25000 X (0.09-.06) X 4/12] =
= Rs. 25000 + Rs. 250
= **Rs. 25250**

Therefore, Price of Future Contract = 50 X Rs. 25250 = **Rs. 12,62,500**

Question (b):

Number of Nifty Future Contracts to be sold = Portfolio Beta $X \frac{\text{Value of Investment to be hedged}}{\text{Value of One Index Future Contract}}$

Number of Contracts to be sold = 1.5 $X \frac{\text{Rs. } 50,50,000}{Rs.12,62,500}$ = **6**

If Index value after 3 months is 22,500, the value of 1-month Index Future Contract will be:

$F = S_0 \times e^{(r-y)t}$ = Rs. 22500 + [Rs. 22,500 X (0.09-0.06) X 1/12]
= Rs. 22,500 + Rs. 56.25
= **Rs. 22,556.25**

Since, Short-position is taken in Index Future Contracts, when there is fall in the price of underlying, it results in gain.
On taking off-setting position at the end of 3 months, the profits will be:
(Rs. 25250 – Rs. 22,556.25) X 50 units X 6 Contracts = **Rs. 8,08,125**

Question 2(b) [8 Marks]:

An importer booked a forward contract with his bank on 1st September for US $ 5,00,000 due on 1st February @ Rs. 82.60. The bank covered its position in the market @ Rs. 80.90.
The exchange rates for dollar in the interbank market on 1st February and 15th February were:

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

Exchange margin 0.18% and interest on outlay of funds @ 15%. The importer requested on 15th February for 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)

Solution

Question (i):

Cancellation Rate (i.e., Rate at which Contract can be sold on 15th February):
Rs. 80.01 – 0.18% Margin = Rs. 80.01 – Rs. 0.14 = **Rs. 79.87**

Question (ii):

Cancellation Loss payable on 5,00,000$ = (Rs. 79.87 – Rs. 82.60) X 5,00,000$
= **Rs. 13,65,000**

Question (iii):

Swap Loss: (Rs. 80.10 – Rs. 80.45) X 5,00,000$ = **Rs. 1,75,000.**

Question (iv):

Interest on Outlay of Funds: (Rs. 80.10 – Rs. 80.90) X 5,00,000$ X 15% X 15/365 =
Rs. 2,465.75

Question (v):

New Contract Rate: Rs. 80.75 + 0.18% Margin = **Rs. 80.89** (rounded off)
Note: Due date of 1st May should be considered as end of April.

Question (vi):

Total Amount payable = Interest on Outlay of Funds + Swap Loss + Loss on Cancellation
= Rs. 2465.75 + Rs. 1,75,000 + Rs. 13,65,000 = **Rs. 15,42,465.75**

Question 3(a) [8 Marks]:

ACE Mutual Fund Company has the following assets under it on the close of business as on:

Company	No. of Shares	Market Price per Share	
		1st August 2020 Rs.	2nd August 2020 Rs.
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 number of units issued by the Mutual Fund is 6,00,000.

(i) Calculate Net Assets Value (NAV) per unit as on 1st August 2020.

(ii) Following information is also given:
Assuming that Mr. Tarun, submits a cheque of Rs. 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 case, what would be the position of the Fund?

(iii) Find new NAV of the Fund as on 2nd August 2020.

Solution

Question (i): NAV on 1st August

Shares of	Number of Shares	Market Price per Share (Rs.)	Value (Rs.)
Q Ltd.,	2,000	200.00	400000
R Ltd.,	30,000	312.40	9372000
S Ltd.,	40,000	180.60	7224000
T Ltd.,	60,000	505.10	30306000
		Value of Net Assets	**47302000**
Number of Units			600000
		NAV per unit (Rs.)	**78.84**

Question (ii): New Position on 1st August

If Mr. Tarun invests Rs. 30,00,000 in the Fund, he will be issued with units worth Rs. 30,00,000. NAV per unit is Rs. 78.84.

Hence, Zubin will be issued with **38051.75 units** (Rs. 30,00,000 / Rs. 78.84 per unit)

So, total units will be 638051.75

The Funds will be used for buying 8000 units of Shares of R Ltd., and the balance will be held in the Bank.
Market price per share of R Ltd., is Rs. 312.40

So, Amount invested in Shares of M Ltd., will be Rs. 24,99,200.
Balance of Rs. 5,00,800 (i.e., Rs. 30,00,000 – Rs. 24,99,200) will be held in Bank.

Therefore, the New Position will be:

Shares of	Number of Shares	Market Price per Share (Rs.)	Value (Rs.)
Q Ltd.,	2,000	200.00	400000
R Ltd.,	38,000	312.40	11871200
S Ltd.,	40,000	180.60	7224000
T Ltd.,	60,000	505.10	30306000
Balance at Bank			500800
		Value of Net Assets	**50302000**
Number of Units			638051.75
		NAV per unit (Rs.)	**78.84**

Question (iii): NAV on 2nd August

	Number of Shares	Market Price per Share (Rs.)	Value (Rs.)
Shares of Q Ltd.,	2,000	205.000	410000
Shares of R Ltd.,	38,000	360.000	13680000
Shares of S Ltd.,	40,000	191.550	7662000
Shares of T Ltd.,	60,000	503.900	30234000
Cash at Bank			500800
		Value of Net Assets	**52486800**
Number of Units			638051.75
		NAV per unit (Rs.)	**82.26**

Question 3(b) [8 Marks]:

ABC Ltd., requires Rs. 15,00,000 for a new project: Useful life of project is 4 years. Salvage value is NIL Depreciation is Rs. 3,00,000 per annum.
Expected revenues and costs (excluding depreciation) ignoring inflation are as under:

Year	1	2	3	4	5
Revenues (Rs.)	8,00,000	9,00,000	10,00,000	11,00,000	1200,000
Costs (Rs.)	3,00,000	4,00,000	5,00,000	6,00,000	6,00,000

Tax rate is 40%. Cost of capital @ 12% (including inflation premium).
Calculate NPV of the Project if inflation rates for revenues and 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
PV Factor	0.893	0.797	0.712	0.636	0.567

Solution

Calculation of Revenues in Nominal terms:

Year 1: Rs. 8,00,000 X 1.12 = Rs. 8,96,000

Year 2: Rs. 9,00,000 X 1.12 X 1.11 = Rs. 11,18,880

Year 3: Rs. 10,00,000 X 1.12 X 1.11 X 1.10 = Rs. 13,67,520

Year 4: Rs. 11,00,000 X 1.12 X 1.11 X 1.10 X 1.09 = Rs. 16,39,656

Year 5: Rs. 12,00,000 X 1.12 X 1.11 X 1.10 X 1.09 X 1.08 = Rs. 19,31,813

Calculation of Cash Cost in Nominal terms:

Year 1: Rs. 3,00,000 X 1.14 = Rs. 3,42,000

Year 2: Rs. 4,00,000 X 1.14 X 1.13 = Rs. 5,15,280

Year 3: Rs. 5,00,000 X 1.14 X 1.13 X 1.12 = Rs. 7,21,392

Year 4: Rs. 6,00,000 X 1.14 X 1.13 X 1.12 X 1.11 = Rs. 9,60,894

Year 5: Rs. 6,00,000 X 1.14 X 1.13 X 1.12 X 1.11 X 1.10 = Rs. 10,56,984

Calculation of Cash Inflows:

Rs.

YEAR	1	2	3	4	5
Revenues in Nominal terms	896000	1118880	1367520	1639656	1931813
Cash Cost in Nominal terms	342000	515280	721392	960894	1056984
Depreciation	300000	300000	300000	300000	300000
Total Cost	642000	815280	1021392	1260894	1356984
Profits Before Tax	254000	303600	346128	378762	574830
Less: Tax @ 40%	101600	121440	138451	151505	229932
Profits After Tax	152400	182160	207677	227257	344898
Add: Depreciation	300000	300000	300000	300000	300000
Cash Inflows	452400	482160	507677	527257	644898
PV of Re. 1 @ 12%	0.893	0.797	0.712	0.636	0.567
PV of Cash Inflows	**403993**	**384282**	**361466**	**335336**	**365657**

Calculation of Net Present Value:

Rs.

Total PV of Cash Inflows	1850733
Less: Cash Outflows	1500000
Net Present Value	**350733**

Question 4(a) [8 Marks]:

The credit sales and receivables of Decent Ltd., at the end of year are estimated at Rs. 730 Lakhs and Rs. 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 Rs. 1.60 Lakhs p.a. in administrative cost and Rs. 5.60 Lakhs p.a. 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% p.a. Assume 365 days in a year for the purpose of calculation of receivables.
You are required to evaluate the viability of the factoring proposal.

Solution

Total Sales for the year:	Rs. 730,00,000
Credit Period under Factoring proposal:	30 days
Investment in Receivables:	Rs. 730,00,000 X 30 days / 365 days = Rs. 60,00,000.
Current investment in Receivables:	Rs. 90,00,000
Reduction in Investment in Receivables	Rs. 30,00,000
Amount advanced by Factor	80% of Rs. 60,00,000 = Rs. 48,00,000

	Rs.
Costs of Factoring (Annualised)	
Factoring Charges- Annualised (1.1% of Rs. 730,00,000)	8,03,000
Interest on advance (See Working Note)	
Annualised – (Rs. 48,00,000 X 7.5%)	3,60,000
	11,63,000
Benefits of Factoring	
Reduction in Finance Cost (Rs. 30,00,000 X 6%)	1,80,000
Savings in Bad Debts (Rs. 40,00,000 X 3%)	5,60,000
Savings in Administration Cost	1,60,000
Savings in interest on overdraft (Rs. 48,00,000 X 6%)	2,88,000
	11,88,000
Net Benefit of Factoring	**25,000**

Since the factoring option is resulting in net benefit, it is a viable option.

Note: In case factoring proposal is not considered, Rs. 48,00,000 must be borrowed from bank as overdraft @ 6% interest. If factoring proposal is accepted, the interest on overdraft will be a saving. Hence, it is shown as 'benefit of factoring.'

Question 4(b) [8 Marks]:

MK Finance Ltd., a leasing company, has been approached by a prospective customer intending to acquire a machine having a cash down price of Rs. 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 lease of 3 years.

Discounting factor @ 12% is to be taken as:

Year	1	2	3
PV Factor	0.893	0.797	0.712

Solution

The problem involves calculation of 'Effective Cost of the Asset' and 'Lease Rent to be charged' each year.

A. Calculation of Effective Cost of the Asset

Effective Cost of the Asset = PV of Cash Outflows on the Asset – PV of Cash Inflows (benefits) from the Asset.

1. Cash Outflows = Cost of the Asset = Rs. 800 Lakhs.

2. Cash Inflows:

Cash Inflows comprise of Tax Benefit on account of Depreciation and Salvage realisable if any.

The problem is silent about salvage value. Further, the life of the asset is not mentioned. Hence, it is assumed that no salvage is realisable on the asset within the 3-year period or later.

The depreciation on the asset and the tax savings on depreciation is shown in the table below:

(Rs. In Lakhs)

Year	Opening Balance	Depreciation	Closing Balance	Tax Savings on Depreciation @ 35%	PV of Re.1@ 12%	PV Of Tax Savings
1	800	200	600	70.00	0.893	62.5100
2	600	150	450	52.50	0.797	41.8425
3	450	112.50	337.50	39.375	0.712	28.0350
Total						**132.3875**

3. Calculation of Effective Cost of the Asset

	Rs. In Lakhs
Present Value of Cash Outflow	800.0000
Less: PV of Tax Savings on account of Depreciation	132.3875
Effective Cost of the Asset	**667.6125**

B. Calculation of Lease Rent

The Lease rent to be quoted must be in the ratio of 3:2:1 for years 1, 2 and 3.

Let 'x' be the Lease Rent for Year 3. Then, the Lease Rent for year 1 and 2 will be 3x and 2x.

PV of Net Lease Rent (i.e., Lease Rent after Tax) should be equal to 'Effective Cost of the Asset'.

That is,

Year	After-tax Lease Rent	PV of Re. 1 @ 10%	PV of After-tax Lease Rent
1	3x(1-0.35)	0.893	1.74135x
2	2x(1-0.35)	0.797	1.03610x
3	1x(1-0.35)	0.712	0.46280x
			667.6125

So, 3.24025x = Rs. 667.6125

Hence, **x** = Rs. 667.6125 / 3.24025 = **Rs. 206.037 Lakhs**

Therefore, the Lease Rent must be-

Year	Lease Rent	Rs. In Lakhs
1	3x	3 X 206.037 = **618.111**
2	2x	2 X 206.037 = **412.074**
3	1x	1 X 206.037 = **206.037**

Question 5(a) [8 Marks]:

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?

Solution

Questions (i) and (ii):

Portfolio Return = $\sum Wi\overline{Ri}$

Since coefficient of correlation is given, Portfolio Risk must be calculated on the basis of Markowitz Modern Portfolio Theory. Accordingly,

Portfolio Standard Deviation (σ_p) = $\sqrt{Portfolio\ Variance}$

Portfolio Variance (σ_p^2) = $\sum$ $W_X^2\ \sigma_X^2 + W_Y^2\ \sigma_Y^2 + 2W_XW_Y$ X r X σ_X X σ_Y (For two Stocks)

Portfolio (i):

Portfolio Return = (0.5 X 19%) + (0.5 X 23%) = **21%**

Portfolio Variance = (0.5^2 X 14^2) + (0.5^2 X 18^2) + (2 X 0.5 X 0.5 X 0.16 X 14 X 18) = $150.16\%^2$

Portfolio Standard Deviation = $\sqrt{150.16}$ = **12.25%**

Portfolio (i)i:

Portfolio Return = (0.75 X 19%) + (0.25 X 23%) = **20%**

Portfolio Variance = (0.75^2 X 14^2) + (0.25^2 X 18^2) + (2 X 0.75 X 0.25 X 0.16 X 14 X 18) = $145.62\%^2$

Portfolio Standard Deviation = $\sqrt{145.62}$ = **12.07%**

Portfolio (iii):

Portfolio Return = (0.25 X 19%) + (0.75 X 23%) = **22%**

Portfolio Variance = (0.25^2 X 14^2) + (0.75^2 X 18^2) + (2 X 0.25 X 0.75 X 0.16 X 14 X 18) = $209.62\%^2$

Portfolio Standard Deviation = $\sqrt{209.62}$ = **14.48%**

Portfolio (iv):

Portfolio Return = (0.6 X 19%) + (0.4 X 23%) = **20.6%**

Portfolio Variance = (0.6^2 X 14^2) + (0.4^2 X 18^2) + (2 X 0.6 X 0.4 X 0.16 X 14 X 18) = $141.75\%^2$

Portfolio Standard Deviation = $\sqrt{141.75}$ = **11.91%**

Portfolio (v):

Portfolio Return = (0.35 X 19%) + (0.65 X 23%) = **21.6%**

Portfolio Variance = $(0.35^2 \text{ X } 14^2) + (0.65^2 \text{ X } 18^2) + (2 \text{ X } 0.35 \text{ X } 0.65 \text{ X } 0.16 \text{ X } 14 \text{ X } 18) = 179.25\%^2$

Portfolio Standard Deviation = $\sqrt{179.25}$ = **13.39%**

Question (iii):

According to Markowitz Theory, Portfolio having lowest risk (i.e., lowest standard deviation) is most preferable. In this case, Portfolio (iv) is having the lowest standard deviation. Hence, from risk point of view, **Portfolio (iv)** is the best.

Question (iv):

Portfolio (iii) has highest return of 22%. Hence, from return point of view, **Portfolio (iii)** is the best.

Question 5(b) [8 Marks]:

Mr. P established the following spread on the Coastal Corporation's stock:
(i) Purchased one 3-month call option with a premium of Rs. 6.50 and an exercise price of Rs. 110.
(ii) Purchased one 3-month put option with a premium of Rs. 10 and an exercise price of Rs. 90.
Coastal Corporation's stock is currently selling at Rs. 100. Determine profit or loss, if the price of Coastal Corporation's stock:
(i) Remains at Rs. 100 after 3 months.
(ii) Falls at Rs. 70 after 3 months.
(iii) Rises to Rs. 138 after 3 months.
Assume the size of option is 1000 Shares of Coastal Corporation.

Solution

'Value on Expiry' of Call Option bought = Max(S-E,0)

'Value on Expiry' of Put Option bought = Max(E-S,0)

In this case,

	Exercise Price	Premium
Call Option	Rs. 110	Rs. 6.50
Put Option	Rs. 90	Rs. 10

Total premium: (Rs. 6.50 + Rs. 10) X 1000 Shares = **Rs. 16,500**

Net Pay-off:

Rs.

Future Spot Price of Underlying Asset	Is Call Option Exercised?	Value on expiry of call Option bought	Is Put Option Exercised?	Value on expiry of Put Option bought	Total Value	Total Premium	Net Pay-off per Share	Total Pay off (for 1000 Shares)
100	No	0	No	0	0	16.50	-16.50	(16,500)
70	No	0	Yes	20	20	16.50	3.50	3,500
138	Yes	28	No	0	28	16.50	11.50	11,500

Question 6(a) [10 Marks]:

The following information is provided relating to the acquiring company Efficient Ltd., and the target company Healthy Ltd:

	Efficient Ltd.,	**Healthy Ltd.,**
No. of Shares (Face Value Rs 10)	20 Lakhs	15 Lakhs
Market Capitalization (Rs.)	800 Lakhs	1200 Lakhs
P/E Ratio (times)	10	5
Reserves and Surplus (Rs.)	400 Lakhs	273 Lakhs
Promoter's Holding (No. of Shares)	8.65 Lakhs	9 Lakhs

The 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 calculated 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.

Solution

Parameter	**Exchange Ratio**	**Weight**	**ER x W**
Earnings per Share	4.00	0.45	1.8000
Book Value per Share	0.94	0.20	0.1880
Market Price per Share	2.00	0.35	0.7000
			2.6880
So, Exchange Ratio is **2.688:1**			

Working Notes:

Exchange Ratio = Parameter of Target Firm / Parameter of Acquiring Firm

(A) Calculation of Exchange Ratio on the basis of Market Price per Share:		
	E Ltd.,	**H Ltd.,**
Market Capitalisation (Rs. Lakhs)	800	1200
No. of Shares (Lakhs)	20	15
Market Price per Share (Rs.)	**40.00**	**80.00**
Exchange Ratio = Rs. 80 / Rs. 40		**2**

(B) Calculation of Exchange Ratio on the basis of Earnings per Share:		
	E Ltd.,	**H Ltd.,**
Market Price per Share (Rs.)	40.00	80.00
PE Ratio (given)	10	5
Earnings per Share (Market Price per Share / PE Ratio)	**4.00**	**16.00**
Exchange Ratio = Rs. 16 / Rs.4		**4**

(C) Calculation of Exchange Ratio on the basis of Book Value per Share:		
	E Ltd.,	**H Ltd.,**
Total Number of Shares (in Lakhs)	20.00	15.00
Face Value per Share (Rs.)	10	10
Share Capital (in Lakh Rs.)	200.00	150.00
Reserves and Surplus (in Lakh Rs.)	400.00	273.00
Net Worth (in Lakh Rs.)	600.00	423.00
Book Value per Share [Net Worth / No. of Shares]	**30**	**28.20**
Exchange Ratio = Rs. 28.20 / Rs.30		**0.94**

Promoter's Holding Percentage after Acquisition:

Total No. of Shares Post-merger: 20 Lakh + [2.6.88 X 15 Lakh] = 60.32 Lakh Shares

Total Shares held by Promoters post-merger: 8.65 Lakh + [2.688 X 9 Lakh]
= 32.842 Lakh Shares

So, Promoters' Holding percentage after merger is: (32.842 Lakh / 60.32 Lakh) X 100
= **54.45%**

Post-merger EPS:

$EPS_{AT} = E_{AT} / N_{AT}$

E_{AT} = (20 Lakhs X Rs. 4) + (15 Lakhs X Rs. 16) = Rs. 320 Lakhs
$N_{AT} = N_A + (ER \times N_T)$ = 20 Lakh + [2.688 X 15 Lakh] = 60.32 Lakh Shares
So, EPS_{AT} = Rs. 320 Lakhs / 60.32 Lakh Shares = **Rs. 5.305**

Post-merger Market Price per Share and Market Capitalisation:

MPS_{AT} = EPS_{AT} X PE_{AT}
So, MPS_{AT} = Rs. 5.305 X 10 = **Rs. 53.05**

MV_{AT} = N_{AT} X MPS_{AT}
= 60.32 Lakh Shares X Rs. 53.05
= **Rs. 3199.98 Lakhs**

Post-merger Free Float Market Capitalisation

Total Shares post-merger: 60.32 Lakhs
Number of Shares held by Promoters: 32.842 Lakhs
So, Free Float Shares = 60.32 Lakhs – 32.842 Lakhs = **27.478 Lakhs**

Free Float Market Capitalisation = Free Float Shares X Market Price per Share
= 27.478 Lakhs X Rs. 53.05
= **Rs. 1457.71 Lakhs**

Question 6(b) [6 Marks]:

From the following particulars, 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	Rs. 4,87,750.
Face Value	Rs. 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

Solution

Effective Rate of Interest p.a. = $\frac{Face\ Value - Issue\ Price}{Issue\ Price} X\ 100\ X \frac{12}{M} = \frac{Rs.5,00,000 - Rs.4,87,750}{Rs.4,87,750} X\ 100\ X \frac{12}{3}$
= **10.046%**

Cost of Funds (annualised):

	%
Effective interest	10.046
Brokerage (0.15% X 12 / 3)	0.600
Rating Charges	0.550
Stamp Duty (0.20% X 12 / 3)	0.800
	11.996

Question 7(a) [4 Marks]:

Explain briefly, how financial policy is linked to strategic management.

Answer

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.

Question 7(b) [4 Marks]:

Distinguish between Investment Bank and Commercial Bank.

Answer

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 sellers of securities (i.e., stocks and 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.

Question 7(c) [4 Marks]:

Explain briefly the salient features of Foreign Currency Convertible Bonds (FCCBs)

Answer

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.

Question 7(d) [4 Marks]:

Discuss about Nostro, Vostro and Loro Accounts.

Answer

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.

Question 7(e) [4 Marks]:

Explain synergy in the context of Mergers and Acquisitions.

Answer

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.

The value of combined entity can be more than the 'sum of values of individual entities' either on account of increased revenues or reduced cost or both.

Revenue increase can happen because of reduced competition, bigger geographical spread, higher production on account of combined infrastructure etc.,

Cost can reduce on account of increased operational efficiency, better infrastructure and other resources, reduced wastage etc.