

Nahata Professional Academy

(Indore)

Ideal Answers CA Final

Strategic Financial Management May-2016 Exam

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(Special thanks to my student **“Deepali Bajaj”** for checking the accuracy of calculations and proof reading. If you find any error in these solutions please mail it.)

Question 1(a)

The following are the data of five mutual funds:

Fund	Return	Standard Deviation	Beta
A	15	7	1.25
B	18	10	0.75
C	14	5	1.40
D	12	6	0.98
E	16	9	1.50

You are required to compute Reward to Volatility Ratio and rank these portfolio using:

- Sharpe method and
- Treynor's method

Assuming the risk free rate is 6%. (5 marks)

Answer 1(a)

$$\text{Sharpe Ratio} = \frac{R_p - R_f}{\sigma_p}$$

$$\text{Treynor's Ratio} = \frac{R_p - R_f}{\beta_p}$$

Fund	Sharpe Ratio	Rank	Treynor's Ratio	Rank
A	$\frac{15 - 6}{7} = 1.29$	2	$\frac{15 - 6}{1.25} = 7.2$	2
B	$\frac{18 - 6}{10} = 1.2$	3	$\frac{18 - 6}{0.75} = 16$	1
C	$\frac{14 - 6}{5} = 1.6$	1	$\frac{14 - 6}{1.4} = 5.71$	5
D	$\frac{12 - 6}{6} = 1$	5	$\frac{12 - 6}{0.98} = 6.12$	4
E	$\frac{16 - 6}{9} = 1.11$	4	$\frac{16 - 6}{1.5} = 6.67$	3

Question 1(b) Bright Compare Limited is planning to issue a debenture series with a face value of Rs. 1,000 each for a term of 10 years with the following coupon rates:

Years	Rates
1-4	8%
5-8	9%
9-10	13%

The current market rate on similar debenture is 15% p.a. The company proposes to price the issue in such a way that a yield of 16% compounded rate of return is received by the investors. The redeemable price of the debenture will be at 10% premium on maturity, what should be the issue price of debenture?

PV @ 16% for 1 to 10 years are : .862, .743, .641, .552, .476, .410, .354, .305, .263, .227 respectively. (5 marks)

Answer 1(b)

Year	Rs.	PVF@16%	PV
1-4	80	2.798	224
5-8	90	1.545	139
9-10	130	0.490	64
10	1100	0.227	250
			677

Issue price per debenture should be Rs.677

Question 1(C) Calculate the value of share of avenger Ltd. From the following information:

Equity capital of company	Rs. 1,200 crores
Profit of the company	Rs. 300 crores
Par value of share	Rs. 40 each
Debt ratio of company	25
Long run growth rate of the company	8%
Beta 0.1 ; risk free interest rate	8.7%
Market Returns	10.3%
Change in working capital per share	Rs.4
Depreciation per share	Rs.40
Capital expenditure per share	Rs.48

(5 marks)

Answer 1(c)

$$1) \text{ Return on equity} = \frac{\text{Earning available to equity shareholders}}{\text{Equity shareholders' fund}} = \frac{300}{1200} \times 100 = 25\%$$

$$2) \text{ Growth rate} = \text{ROE} \times \text{Retention Ratio}$$

$$8\% = 25\% \times \text{RR}$$

$$\text{RR} = 32\%$$

$$3) \text{ Payout ratio} = 100 - \text{Retention Ratio} = 100 - 32 = 68\%$$

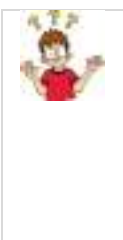
$$4) \text{ EPS} = \frac{\text{Earning available to equity shareholders}}{\text{number of equity shares}} = \frac{300 \text{ crores}}{1200/40} = \text{Rs. } 10$$

$$5) \text{ Dividend } (D_0) = \text{Rs. } 10 \times 68\% = \text{Rs. } 6.8$$

$$6) D_1 = D_0(1 + g) = 6.8 \times (1.08) = \text{Rs. } 7.344$$

$$7) E(R_p) = R_f + (R_m - R_f)\beta = 8.7 + (10.3 - 8.7) \times 0.1 = 8.86$$

$$8) P_0 = \frac{D_1}{K_e - g} = \frac{7.344}{.0886 - .08} = \text{Rs. } 854$$

	- Information of Depreciation, working capital & capital expenditure seems un-required and incompatible hence not used in the solution. - Debt ratio is given as 25. Is it 25 times of 25%? Formula for debt ratio is Debt/(Debt + Equity) and not Debt/Equity. Hence it can't be 25 times. - Question appears to be erroneous.
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Question 1(d) Fresh Bakery Ltd.'s share has suddenly started moving both upward and downward on rumour that the company is going to have a collaboration agreement with a multinational company in bakery business, If the rumour turns to be true, then the stock price will go up but if the rumour to be false, then the market price of the share will crash. To protect from this an investor has purchase the following call and put options:

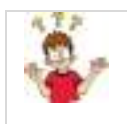
- One 3 months call with a striking price of Rs. 52 for Rs.2 premium per share.
- One 3 months put with a striking price of Rs. 50 for Rs. 1 premium per share.

Assuming a lot size of 50 share, determine the following:

- The investor's position, if the collaboration agreement push the share price to Rs. 53 in 3 months.
- The investor's ending position, if the collaboration agreement fails and the price crashes to Rs. 46 in 3 months time. (5 marks)

Answer 1(d)

- If price goes up to Rs.53 then call will be exercised and investor will get $(53-52) \times 50 = \text{Rs.}50$
- If price comes down to Rs.46 then put will be exercised and investor will get $(50-46) \times 50 = \text{Rs.}200$

	6th line of the question says "To Protect....". This give an impression that investor want to hedge his position. While the strategy given in the question is "Strangle", which is used for speculation and not for hedging.
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Question 2(a) MNL Ltd. Is considering investment in one of three mutually exclusive projects: AB, BC, CD. The company's cost of capital is 15% and the risk free interest rate is 10%. The income-tax rate for the company is 34%. MNL has gathered the following basic cash flows and risk index data for each project:

Projects	AB	BC	CD
Initial investment	12,00,000	10,00,000	15,00,000
Cash inflows- Year			
1	5,00,000	5,00,000	4,00,000
2	5,00,000	4,00,000	5,00,000
3	5,00,000	5,00,000	6,00,000
4	5,00,000	3,00,000	10,00,000
Risk index	1.80	1.00	.60

Using the Risk Adjusted Discount Rate. Determine the risk adjusted NPV for each of the project. Which Project should be accepted by the company? (10 marks)

Answer 2(a)

Calculation of risk adjusted discounting rate:

$$E(R_p) = R_f + (R_m - R_f)\beta$$



Market rate of return is not given in the question hence put cost of capital of 15% in place of R_m .

$$AB = 10 + (15-10) \times 1.8 = 19$$

$$BC = 10 + (15-10) \times 1.0 = 15$$

$$CD = 10 + (15-10) \times 0.6 = 13$$

Lets assume that cash flows given in the question are Cash Flow After Tax.

Year	AB		BC		CD	
	Amount	PV@19%	Amount	PV@15%	Amount	PV@13%
0	-12,00,000	-12,00,000	-10,00,000	-10,00,000	-15,00,000	-15,00,000
1	5,00,000	4,20,168	5,00,000	4,34,783	4,00,000	3,53,982
2	5,00,000	3,53,082	4,00,000	3,02,457	5,00,000	3,91,573
3	5,00,000	2,96,708	5,00,000	3,28,758	6,00,000	4,15,830
4	5,00,000	2,49,334	3,00,000	1,71,526	10,00,000	6,13,319
	NPV=	1,19,293		2,37,524		2,74,704

Company should accept project CD because it has highest NPV.

Alternative Solution:

If we assume cash flows to be cash flow before tax and assume straight line method of depreciation with zero salvage value :-

Year	AB			
	CFBT	Depn	CFAT	PV@19%
0	-	-	-12,00,000	-12,00,000
1	5,00,000	3,00,000	4,32,000	3,63,025
2	5,00,000	3,00,000	4,32,000	3,05,063
3	5,00,000	3,00,000	4,32,000	2,56,356
4	5,00,000	3,00,000	4,32,000	2,15,425
			NPV=	-60,131

Year	BC			
	CFBT	Depn	CFAT	PV@15%
0	-	-	-10,00,000	-10,00,000
1	5,00,000	2,50,000	4,15,000	3,60,870
2	4,00,000	2,50,000	3,49,000	2,63,894
3	5,00,000	2,50,000	4,15,000	2,72,869

4	3,00,000	2,50,000	2,83,000	1,61,806
			NPV=	59,439

Year	CD			
	CFBT	Depn	CFAT	PV@13%
0	-	-	-15,00,000	-15,00,000
1	4,00,000	3,75,000	3,91,500	3,46,460
2	5,00,000	3,75,000	4,57,500	3,58,290
3	6,00,000	3,75,000	5,23,500	3,62,812
4	10,00,000	3,75,000	7,87,500	4,82,988

Question 2(b) Calculate the NAV of a regular income scheme on per unit basis of Red Bull mutual fund from the following information:

Particulars	Rs. In Crores
Listed shares at cost (ex-dividend)	30
Cash in hand	0.75
Bonds & Debentures at cost (ex-interest)	2.30
Of these, bonds not listed & not quoted	1.0
Other fixed interest securities at cost	2.50
Dividend accrued	0.8
Amount payable on shares	8.32
Expenditure accrued	1.00
Value of listed bonds & debentures at NAV date	10

Number of units (Rs. 10 face value)	30 lakhs
Current realizable value of fixed income securities of face value of Rs. 100 is	106.50
The listed shares were purchased when index was	7100
The present index is	9000

Unlisted bonds and debenture are at cost. Other fixed interest securities are also at cost. (6 marks)

Answer 2(b)

Particulars	Rs. in crores
Listed shares $30 \times 9000/7100$	38.03
Cash in hand	0.75
Un listed bonds & debentures	1.00
Listed bonds & debentures	10.00
Other fixed interest securities $2.5 \times 106.5/100$	2.66
Dividend accrued	0.80
Amount payable on shares	-8.32
Expenditure accrued	-1.00
Net Assets Value	43.92
Number of units	0.30
NAV per unit (Rs.)	146.4

Question 3(a)

Hi- tech Software Ltd. (HSL) has a complete “Software Developing Unit” costing Rs. 70 lakhs. It is this type of block of assets that have no book value as at 31st March, 2016 as it entitled to 100% rate of depreciation under Income Tax Act, 1961. The company is facing acute fund crunch as it lacks order from Middle East and was toying with the idea of taking term loan. Eastern Financier (EF), a reputed finance company, gave the idea of “buy & lease back” to tide over the fund crunch, EF agreed to buy the software developing of unit at Rs.50 lakhs and lease it back to HSL for lease rental of Rs. 9 lakhs p.a. for period of 5 years. HSL for lease rental of Rs. 9 lakhs p.a. for period of 5 years. HSL decides to put the entire net proceeds in a fixed deposit at a nationalized bank at yearly interest of 8.75% for 5 years to generate cash flow much needed for day to day operation.

Central financier (CF) another financier, gave a proposal of selling a similar software developing unit at Rs.30 lakhs to HSL and they will buy back after 5 years at a price of Rs.5 Lakhs provided the annual maintenance Contract (AMC) @ Rs. 1.50 lakhs per annum is entrusted to them. The new machine is also entitled to 100% rate of depreciation under Income Tax Act, 1961. CF also agreed to buy the existing software developing unit at Rs. 50 lakhs. HSL would utilize the net sale proceeds to finance this machine.

The marginal rate of tax of HSL is 34% and its weighted average cost of capital is 12%. Which offer HSL should accept?

Year	1	2	3	4	5
Discounting factor @ 12%	.893	.797	.712	.636	.567

(8 marks)

Answer 3(a)**Option 1: Proposal from EF****Step1: Initial cash flows**

Particulars	Amount (Rs. in lakhs)
Sale existing 'Software developing unit'	50.00
Tax on capital gain $(50-0) \times 34\%$	-17.00
Investment in fixed deposit	-33.00
	Nil

Step2: Annual cash flows

Particulars	Amount (Rs. in lakhs)
Lease rent	-9.00
Interest on FD $(33 \times 8.75\%)$	2.89
Net cash flow	-6.11
Tax benefit $6.11 \times 34\%$	2.08
Net cash flow after tax	-4.03
PVAF (12%, 5 years)	$\times 3.605$
PV of annual cash flows	-14.53

Step3: Terminal cash flows

Particulars	Amount (Rs. in lakhs)
FD maturity	33.00
PVF (12%, 5 th years)	x 0.567
PV of terminal cash flows	18.71

Step4: NPV = -14.53 + 18.71 = + 4.18

Option 2: Proposal from CF**Step1: Initial cash flows**

Particulars	Amount (Rs. in lakhs)
Sale existing 'Software developing unit'	50.00
Buy similar new unit	-30.00
Tax on capital gain (50-30) x 34%	-6.80
Investment in fixed deposit (to make comparable it option 1, we should invest surplus under this option also)	-13.20
Net initial cash flow	NIL

Step2: Annual cash flows

Particulars	Amount (Rs. in lakhs)
Annual maintenance	-1.50
Interest on FD (13.2 x 8.75%)	1.16
Net cash flow	-0.34
Tax benefit 0.34 x 34%	0.12
Net cash flow after tax	-0.22
PVAF (12%, 5 years)	x 3.605
PV of annual cash flows	-0.79

Step3: Terminal cash flows

Particulars	Amount (Rs. in lakhs)
FD maturity	13.20
Salvage value of new unit	5.00
Tax on capital gain 5 x 34%	-1.70
Net cash flow	16.5
PVF (12%, 5 th years)	x 0.567
PV of terminal cash flows	9.36

Step4: NPV = -0.79 + 9.36 = + 8.57

Decision: Proposal from Central Financer is better.

	• Question is technically wrong. Because it says that company has a cash crunch and at the same time sales proceeds of machine is put in FD ! and on the top of it FD interest rate is 8.75% and cost of funds to the company is 12%. This is irrational. • In a similar question asked previously in exam, Suggested answer provided by ICAI was largely wrong.
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Question 3(b) SAM Ltd. Has just paid a dividend of Rs.2 per share and it is expected to grow Rs.6 p.a. After paying dividend, the Board declared to take up a project by retaining the next three annual dividends. It is expected that this project is of same risk as the existing projects. The results of this project will start coming from the 4th year onward from now. The dividends will then be Rs.2.50 per share and will grow @ 7% p.a.

An investor has 1,000 shares in SAM Ltd. And wants a receipt of at least Rs. 2,000 p.a. from this investment.

Show that the market value of the share is affected by the decision of the Board. Also show as to how the investor can maintain his target receipt from the investment for first 3 years and improved income thereafter, given that the cost of capital of the firm is 8%. (8 marks)

Answer 3(b)

Current fair value of share without new project

$$P_0 = \frac{D_1}{K_e - g} = \frac{2.12}{.08 - .06} = Rs. 106$$

Current fair value of share without new project

$$1) P_3 = \frac{D_4}{K_e - g} = \frac{2.50}{.08 - .07} = Rs. 250$$

$$2) P_2 = \frac{D_3 + P_3}{1 + K_e} = \frac{0 + 250}{1.08} = Rs. 231.48$$

$$3) P_1 = \frac{D_2 + P_2}{1 + K_e} = \frac{0 + 231.48}{1.08} = Rs. 214.33$$

$$4) P_0 = \frac{D_1 + P_1}{1 + K_e} = \frac{0 + 214.33}{1.08} = Rs. 198.46$$

Value of share increased by Rs.92.46 (198.46 – 106) due to decision of board.

If the investor want to insure minimum receipt of Rs.2000 p.a. then

- 1) In the first year he should sell (Rs.2000/214.33 =) 9.33 shares.
- 2) In the second year he should sell (Rs.2000/231.48=) 8.64 shares.
- 3) In the third year he should sell (Rs.2000/250 =) 8 shares.

Now in the fourth he will have $1000 - 9.33 - 8.64 - 8 = 974.03$ shares. On which he will receive a dividend of Rs. 2435 (974.03×2.5). This will grow further. Hence no need to sell anymore shares.

Question 4(a) XYZ Ltd. Paid a dividend of Rs. 2 for the current year. The dividend is expected to grow at 40% for the next 5 years and at 15% per annum thereafter. The return on 182 days T-bills is 11% per annum and the market return is expected to be around 18% with a variance of 24%. The co-variance of XYZ's return with that of the market is 30%. You are required to calculate the required rate of return and intrinsic value of the stock. (8 marks)

Answer 4(a)

Working Notes:

$$\beta = \frac{\text{cov}(x, y)}{\sigma_x^2} = \frac{30\%}{24\%} = 1.25$$

$$E(R_p) = K_e = R_f + (R_m - R_f)\beta = 11 + (18 - 11) \times 1.25 = 19.75$$

$$D_1 = D_0(1 + g) = 2 \times 1.40 = 2.80$$

Step 1: Present value of dividends from year 1-5

Year	Dividend	PV@ 19.75%
1	2.80	2.34
2	3.92	2.73
3	5.49	3.20
4	7.68	3.74
5	10.76	4.37
		16.37

Step 2: Present value of dividends year 6 onwards:

$$P_5 = \frac{D_6}{K_e - g} = \frac{12.37}{.1975 - .15} = \text{Rs. } 260.42$$

$$\text{PV} = 260.42 \times \text{PVF}(19.75\%, 5^{\text{th}} \text{ year}) = 260.42 \times 0.406 = \text{Rs. } 105.73$$

Step 3: $P_0 = 16.37 + 105.73 = 122.10$

Question 4(b) Abhinash is holding 5,000 shares of Future Group Limited, Presently the rate of dividend being paid by the company is Rs. 5 per share and the share is being sold at Rs.50 per share in the market. However, several factors are likely to change during the course of the year as indicated below:

	Existing	Revised
Risk free rate	12.5%	10%
Market risk premium	6%	4.8%
Expected growth rate	5%	8%
Beta value	1.5	1.25

In view of the above factors whether Abhinash should buy, hold or sell the shares? Narrate the reason for the decision to be taken. (8 marks)

Answer 4(b)

Existing fair value:

$$1) E(R_p) = K_e = R_f + (R_m - R_f)\beta = 12.5 + 6 \times 1.5 = 21.5$$

$$2) P_0 = \frac{D_1}{K_e - g} = \frac{5 \times 1.05}{.215 - .05} = \text{Rs. } 31.82$$

Proposed fair value:

$$1) E(R_p) = K_e = R_f + (R_m - R_f)\beta = 10 + 4.8 \times 1.25 = 16$$

$$2) P_0 = \frac{D_1}{K_e - g} = \frac{5 \times 1.08}{.16 - .08} = \text{Rs. } 67.5$$

Price of share is expected to increase hence Abinash should hold his 5000 shares in the company. In fact he should buy more shares.



- third line says that market price of shares is Rs.50. Which conflicts with other information given in "Existing" column.

Question 5(a) Following information is given:

Exchange rate-

Canadian Dollar 0.666 per DM (spot)

Canadian Dollar 0.671 per DM (3 months)

Interest rate-

DM 7.5% p.a.

Canadian Dollar – 9.5% p.a.

To take the possible arbitrage gains, what operations would be carried out? (8 marks)

Answer 5(a)

Lets assume that Canadian dollar is home currency

$$\frac{1 + r^h}{1 + r^f} = \frac{F}{S} \gg \frac{1 + \frac{r^h}{4}}{1 + \frac{.075}{4}} = \frac{0.671}{0.666} \gg r^h = 10.56\%$$

Ideal interest rate for Canada is 10.56% while actual is only 9.5%. Therefore one should borrow money in Canada and invest it in Germany. (Note: there are many other ways to check direction of arbitrage.)

Steps for arbitrage:

- 1) Borrow say 1,00,000 Canadian dollars @ 9.5%
- 2) Convert into DM: CAD 1,00,000 / 0.666 = DM 1,50,150
- 3) Invest @ 7.5% p.a. for three months: $1,50,150 \times (1 + .075/4) = \text{DM } 1,52,965$
- 4) Convert into CAD: $\text{DM } 1,52,965 \times 0.671 = \text{CAD } 1,02,640$
- 5) Repay borrowings: $\text{CAD } 1,00,000 \times (1 + .095/4) = \text{CAD } 1,02,375$
- 6) Profit = $102640 - 102375 = \text{CAD } 265$



- One of the currency is “Deutsche Mark”, while it has been replaced by EURO, 17 years back.

Question 5(b) ABC Ltd. Of UK has exported goods worth Can \$ 5,00,000 receivable in 6 months. The exporter wants to hedge the receipt in the forward market. The following information is available:

Spot Exchange Rate	Can \$ 2.5/£
Interest Rate in UK	12%
Interest Rate in Canada	15%

The forward rates truly reflect the interest rates differential. Find out the gain/loss to UK exporter if Can \$ spot rates (i) declines 2%, (ii) gains 4% or (iii) remains unchanged over next 6 months. (8 marks)

Answer 5(b)

Step 1: Calculation of forward rate: For the sake of ease of calculation let's assume UK as foreign country in interest rate parity formula -

$$\frac{1 + r^h}{1 + r^f} = \frac{F}{S} \gg \frac{1 + \frac{0.15}{2}}{1 + \frac{0.12}{2}} = \frac{F}{2.5} \gg F = 2.535$$

Export proceeds with forward contract = Can \$ 5,00,000 / 2.535 = £ 1,97,239

- 1) If Pound declines by 2% :

£ 1 = $2.5 - 2\% = \text{CAD } 2.45$

Realization = Can \$ 5,00,000 / 2.45 = £ 2,04,082

Loss due to Forward Contract = $197239 - 204082 = \text{£ } 6843$

- 2) If Pound gains by 4% :

£ 1 = $2.5 + 4\% = \text{CAD } 2.6$

Realization = Can \$ 5,00,000 / 2.6 = £ 1,92,308

Gain due to Forward Contract = $197239 - 192308 = \text{£ } 4931$

- 3) If pound remains unchanged :

£ 1 = CAD 2.5

Realization = Can \$ 5,00,000 / 2.5 = £ 2,00,000

Loss due to Forward Contract = $197239 - 200000 = \text{£ } 2761$

	• In the second last line it is written that “if Can \$ spot rate declines....”. It give a wrong impression that spot rate of Can \$ is declining. While most probably question maker want to say that in future pound will decline. • If we assume that Canadian dollar will reduce then the solution will change accordingly.
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Question 6(a) Kanpur Shoe Ltd. Is having sluggish sales during the last few years resulting in drastic fall in market share and profit. The marketing consultant has drawn out a new marketing strategy that will be valid for next four years. If the new strategy is adopted. It is expected that sales will grow @ 20% per year over the previous year for the coming two years and @ 30% from the third year. Other parameters like gross profit margin, asset turnover ratio, the capital structure and the rate of Income Tax @ 30% will remain unchanged. Depreciation would be 10% of the net fixed assets at the beginning of the year. The targeted return of the company is 15%.

The financials of the company for the just concluded financial year 2015-16 are given below:

Income Statement	Amount (Rs.)
Turnover	2,00,000
Gross Margin (20%)	40,000
Admin, selling & distribution exp (10%)	20,000
PBT	20,000
Tax (30%)	6,000
PAT	14,000
Balance Sheet Information	
Fixed Assets	80,000
Current Assets	40,000
Equity share capital	1,20,000

You are required to assess the incremental value that will accrue subsequent to the adoption of the new marketing strategy and advise the Board accordingly. Pv @ 15% for 1, 2 & 3 years are: 0.870, 0.756, 0.658 respectively. (8 marks)

Answer 6(a)

Language of question is ambiguous. Lets assume that under the new marketing strategy sales will grow @20% for first two year then @30% for third & fourth year. Thereafter it will be constant **forever**. If the company does not adopt new strategy, sales will remain constant **forever**.

Projected Balance Sheet

Year	1	2	3	4	5
Fixed Assets (40% of sales)	96000	115200	149760	194688	194688
Current Assets (20% of sales)	48000	57600	74880	97344	97344

Projected Cash Flows

Year	1	2	3	4	5
Sales	240000	288000	374400	486720	486720
PAT 7%	16800	20160	26208	34070	34070
Depreciation (10% of Fixed assets)	8000	9600	11520	14976	19469
Addition to Current Assets	-8000	-9600	-17280	-22464	0
Increase in Fixed Assets	-24000	-28800	-46080	-59904	-19469
Net Cash Flow	-7200	-8640	-25632	-33322	34070
Present value factor @ 15%	0.870	0.756	0.658	0.572	
Present value of cash flows	-6261	-6533	-16853	-19052	

Total for first 4 years (A) -48699

Residual value (**34070**/0.15) 227133

Present value of Residual value [227133/(1.15)⁴] (B) 129864

Total Shareholders value (C) = (A) +(B) 81165

Pre strategy value (**14000**/0.15) (D) 93333

Value of strategy (C) - (D) -12168

Conclusion: Kanpur shoe ltd. Should not adopt new marketing strategy.

Sample Working note:

- 1) Depreciation for second year = 96000 x 10% = 9600
- 2) Increase in fixed assets in the second year = Closing balance + Depreciation – Opening Balance = 115200 + 9600 -96000 = 28800
- 3) Increase in current asset in the second year = 57600-48000 = 9600



- Language is very ambiguous. It is highly likely that most of the students will do it wrong. Question does not specify life of the project. Also it does not specify that what will be sale growth if the new marketing strategy is not adopted.
- A similar question was asked previously in exam, which clearly specified that life is perpetual and no sales growth if the new marketing strategy in not adopted.
- For this question lets assume “under the new marketing strategy sales will grow @20% for first two year then @30% for third & fourth year. Thereafter it will be constant **forever**. If the company not adopt new strategy, sales will remain constant **forever**.”

Question 6(b) The CEO of a company thinks that shareholders always look for EPS. Therefore he considers maximization of EPS as his company's objective. His company's current Net Profits are Rs. 80.00 lakhs and P/E multiple is 10.5. He wants to buy another firm which has current income of Rs.15.75 lakhs P/E multiple of 10.

What is the maximum exchange ratio which the CEO should offer so that he could keep EPS at the current level, given that the current market price of both the acquirer and the target company are Rs.42 and Rs.105 respectively?

If the CEO borrows funds at 15% and buys out Target Company by paying cash, how much should he offer to maintain his EPS? Assume tax rate of 30%. (8 marks)

Answer 6(b)

Working note:

Particulars	Acquiring company	Target company
Market price per share	42	105
÷ Price Earning Ratio	10.5	10
Earning per share	4	10.5
Number of shares = Net Profit/ EPS	80,00,000/4 = 20,00,000	15,75,000/10.5 = 1,50,000

To maintain EPS, share exchange ratio should be in the ratio of EPS.

Exchange Ratio = EPS of Target company/ EPS of acquiring company = 10.5/4 = 2.625

Acquiring company should give 2.625 shares for each share of Target company.

Verification of answer:

$$\text{Post merger EPS} = \frac{8000000 + 1575000}{2000000 + 150000 \times 2.625} = 4$$

If CEO borrow fund for cash acquisition, lets assume that amount offer (as well as borrowed) is "X", hence interest payment will be 0.15X. and after tax it will be 0.105X. Now

$$\text{Post acquisition EPS} = \frac{9575000 - 0.105x}{2000000} = 4$$

$$X = 1,50,00,000 = 150 \text{ lakhs.}$$

Question 7 Write short notes on any four of the following: (4 marks each)

- Distinguish between Investment Bank and Commercial Bank.
- Horizontal merger and Vertical Merger.
- Distinguish between Money market and Capital market.
- Operations in foreign exchange market are exposed to number of risks.
- Interface of financial policy and strategic management.