

CA FINAL

STRATEGIC FINANCIAL MANAGEMENT

SUPER 100 PART 1 Questions

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Question 1.

The following information is available for company X and Y:

Company	X	Y
Profit after tax	Rs.120 crore	Rs.45 crore
Number of outstanding shares	35 crore	10 crore
Market price per share	Rs.22	Rs.35

Company X is planning to acquire company Y. The acquisition is expected to be done through swap of stocks in which 2 shares of company X will be given for every share of company Y.

The management of X makes a projection that the combined entity will have an expected P/E ratio of 8 with a standard deviation of 2. The shareholders of company X will accept the merger if the probability of the merger being beneficial is more than 70%.

You are required to

- State whether the merger is acceptable to X.
- State whether the merger is acceptable to Y at a combined P/E of 8. Show all the necessary calculations.
- Price of the combined entity if the swap ratio is 2:1 and P/E is 8. Also calculate the gain or loss to the shareholders of company Y.

Question 2.

The following are the details regarding the borrowing requirements of two companies:

Company	Requirement	Rate offered	
		Fixed	Floating
A	Fixed rate dollars	9%	PLR + 3%
B	Floating rate dollars	10%	PLR + 5%

Both companies need an amount of \$ 10 million for a period of 4 years. The interest rates on the floating rate loans are reset annually. The current PLR for various maturities is as follows:

Maturity (Years)	PLR (%)
1	5.0
2	5.5
3	6.5
4	7.0

Company B bought an interest rate cap at 11.25%.

You are required to

- Show how the two companies can reduce their borrowing costs by doing a swap. Assume that they share the total gain from the swap in the ratio of 1:1.
- Calculate the cost of dollar funds to the companies assuming that the expectations theory holds good.

Question 3.

The income statement of Ramkish Industries Ltd. for the year ending March 31, 2001 is as follows:

	(Rs.Crore)
Sales	500
Gross margin (25%)	125
Selling, general administration & Financing expenses (15%)	75
Profit before tax (10%)	50
Income tax (30% of PBT)	15
Net profit	35

The abridged balanced sheet of the company as on March 31, 2001 is as follows:

		(Rs. crore)	
Liabilities		Assets	
Equity	250	Fixed Assets	175
		Current Assets	175
	250		250

The analyst of the company made the following projections regarding the company in the near future:

- The sales will remain constant at Rs.500 crore.
- The gross profit margin and selling and general expenses as a percentage of sales remain constant at 25% and 15% respectively. Similarly profit before tax will remain at 10% of sales and the income tax rate will continue at 30%.
- Depreciation charge will be equal to the new investments made by the company.
- The asset turnover ratios will remain constant.

The company is evaluating a new marketing strategy. If the strategy is adopted, the sales of the company are expected to increase by 10% every year for the next five years and then remain constant. The margins, the turnover ratios, the capital structure, and the discount rate (presently at 20%) are expected to remain the same.

You are required to determine the value that can be expected to be generated by the new strategy and recommend whether the strategy should be adopted.

Sanjay Saraf Sir

Question 4.

Quantum Jump Ltd. is planning to acquire Unique Products Ltd. in order to expand its installed capacity. The company will then be in a position to cater to increasing demand for its products and services. The projected equity related cash flows of M/s. Quantum Jump Ltd. before and after merger is given below:

(Rs. in mn)					
Year	1	2	3	4	5
Projected Cash flow before Acquisition	15.6	17.2	18.8	22.6	24.9
Projected Cash flow after Acquisition	20.3	24.4	29.6	35.9	42.8

The cash flows are expected to grow at a rate of 6% beyond year 5 if M/s. Unique Product is not acquired and at the rate of 8% if the acquisition takes place. The other relevant data relating to the two companies is given below:

Company	Quantum Jump Ltd.	Unique Products Ltd.
No. of outstanding shares (mn)	20	10
Market Price (Rs.)	30.00	25.00
Book Value (Rs.)	28.00	21.00

The cost of equity is 17%.

You are required to find out

- The maximum exchange ratio that the management of Quantum Jump Ltd. can offer to the shareholders of Unique Products Ltd. so that the present value of its equity related cash flows is at least 20% more than existing level.
- Whether the exchange ratio offered by Quantum Jump as calculated in sub part (a) above will be acceptable to the shareholders of Unique Products Ltd. if their present value of premerger cash flows is Rs.125 millions?

Question 5.

SRT Ltd., a market leader in automobile industry, is planning to diversify into other businesses that have recently been opened up by the GOI for private sector. In the meanwhile, the CEO of the company wants to get his company valued by a merchant banker, as he is not satisfied with the current market price of his scrip.

He approached a merchant banker with a request to take up valuation of his company with the following data for the year ended 2000:

Share Price	Rs. 66 per share
Outstanding debt	1934 crore
Number of outstanding shares	75 crore
Net income	17.2 crore
EBIT	245 crore
Interest expenses	218.125 crore
Capital expenditure	234.4 crore
Depreciation	234.4 crore
Working capital	44 crore
Growth rate	8% (from 2001 to 2005)
Growth rate	6% (beyond 2005)
Free cash flow	240.336 crore (year 2005 onwards)

The capital expenditure is expected to be equally offset by depreciation in future and the debt is expected to decline by 30% by 2005.

Required:

Estimate the value of the company and ascertain whether the ruling market price is undervalued as felt by the CEO based on the foregoing data. Assume that the cost of equity is 16%, and 30% of debt repayment is made in the year 2005.

Question 6.

CDE Ltd. (a soft drink manufacturer) is considering the acquisition of RZB Ltd. (a bottling company) having its operations in four metros of India in a stock-for-stock transaction in which RZB would receive Rs. 85.50 for each share of its common stock. CDE Ltd. does not anticipate any change in its P/E multiple after the merger and opt to value the target company (RZB Ltd.) conservatively by assuming no earnings growth due to synergy. The following information is available regarding both the companies:

	CDE Ltd.	RZB Ltd.
Earnings available for common stock	20.5 lakh	15.65 lakh
Number of shares of common outstanding	1,20,000	25,000
MPS (Market price per share)	Rs. 65.50	Rs. 75.30

You are required to work out:

- Purchase price premium
- Exchange ratio
- Postmerger EPS of the united companies
- Postmerger share price
- Post merger equity ownership distribution.

Question 7.

Vex Ltd. is considering buying Sita Ltd. The target company (Sita Ltd.) is a small pharmaceutical company that develops molecules that are licensed to branded pharmaceutical companies in India. Development costs are expected to generate negative cash flows during the initial two years of the forecast period @ 7.5 lakh and 4 lakh, respectively. Income by way of licensing fees is likely to generate positive cash flows during year 3-5 of the forecast period @ 6 lakh, 8 lakh and 10 lakh, respectively. Due to the emergence of competitive products, cash flow is expected to grow @ 4% annually after the 5th year. The discount rate for the first five years is estimated to be 15% and then to drop to 10% beyond the 5th year. In addition, the present value of the estimated synergy is Rs.18 lakh.

You are required to calculate the minimum and maximum purchase prices for Target Company.

Question 8.

Consider the following information of M/s Lakadawala & Co. as a Target Company.

Short-term assets	30 lakh
Long-term assets	120 lakh
Short-term liabilities	20 lakh
Long-term liabilities	45 lakh
Goodwill (included in the total assets)	20 lakh
No. of Shares outstanding	5.10 lakh

M/s Daruwala & Co (another Target Company), which belongs to the same industry as Lakadawala & Co and having approximately the same size, customer strength, and profitability was recently sold at a price that equated to four times its BPS.

Required:

Estimate the implied market value of M/s. Lakadawala & Co. using Book Value Per Share (BPS) as a measure of value.

Question 9.

Star Ltd. is a firm operating in the textile industry. It is planning to takeover Mercury Ltd., another company operating in the same industry. The summarized balance sheet of Mercury Ltd. as on December 31, 2001 is as follows:

Liabilities	Amount (Rs)	Assets	Amount (Rs)
Equity Share Capital (50,000 shares @ Rs.20)	10,00,000	Land and Buildings	9,00,000
Retained Earnings	2,75,000	Plant and Machinery	5,60,000
11% Debentures	4,00,000	Cash	75,000
Current Liabilities	1,25,000	Debtors	1,00,000
		Inventories	1,65,000
	18,00,000		18,00,000

The following additional information is also available:

Star Ltd is required to discharge the debentures at a premium of 10%, takeover the liability in respect of sundry creditors and pay Rs.11 in cash and issue one share of Rs.10 in Star Ltd. (at the current market price of Rs.12) in exchange for one share of Mercury Ltd.

Star Ltd. is also expected to shell out Rs.2,00,000 for goodwill. Dissolution expenses, amounting to Rs.50,000, was agreed to be shared by both the target and the acquirer in the ratio of 1:1.

Inventories are expected to realize Rs 2,00,000 and the expected collection from debtors is Rs.1,00,000.

It is expected that the cash inflows after taxes accruing to the merged firm would be @ Rs.2,50,000/year for six years. The market value of land and buildings and plant and machinery would be Rs.10 lakhs and Rs.4,00,000 respectively, at the end of the 6th year.

The cost of capital of Mercury Ltd is 12%.

Required:

- Estimate the cost of acquisition for Star Ltd. on payment basis.
- If you were the financial advisor of the company, would you recommend acquisition of Mercury Ltd. Substantiate your recommendations.

Sanjay Saraf Sir

Question 10.

Alpha Inc. and Beta Inc are two firms manufacturing gearboxes for two wheelers. The two firms are contemplating a merger. Alpha Inc. intends to issue just enough number of shares to ensure that the earnings per share of the merged firm is Rs.3.5.

Required:

a. Complete the table given below:

	Alpha Inc.	Beta Inc.	Merged firm
Earnings per share	Rs.2.5	Rs.4	Rs.3.5
Price per share	Rs.40	Rs.36	?
Price-earnings ratio	?	?	?
Total earnings	Rs.4,50,000	Rs.5,25,000	?
Total market value	Rs.40,00,000	Rs.45,00,000	?

b. Determine the rate of exchange of the shares

c. Estimate the cost incurred by Alpha Inc. if, as a result of the merger, the synergy is Rs.28,00,000

Question 11.

Atlantic Pharmaceutical Ltd. has hired a financial consultant to value the company. The Pharma industry has been very stable for quiet some time and the firms that operate in the industry are similar in size and have similar product/market mix characteristics.

A study of similar sized companies that are comparable to Atlantic reveal the following data

	(Rs in lakhs)			
	Aqua	Indigo	Pacific	Atlantic
Market Value	250	200	230	?
Book value	200	200	150	200
Replacement Value	300	275	250	250
Revenues	250	260	300	275
Net income	18	16	14	15

Required:

Using the comparable company approach, value the equity of Atlantic Inc.

Question 12.

The following are the details on two potential merger candidates, Blue and Green in 2001:

Particulars	Blue	Green
Revenues	Rs.4,400.00	Rs.3,125.00
Cost of Goods Sold (without Depreciation)	87.50% of Revenue	89.00% of Revenue
Depreciation	Rs.200.00	Rs.74.00
Tax Rate	35.00%	35.00%
Working Capital	10% of Revenue	10% of Revenue
Market Value of Equity	Rs.2,000.00	Rs.1,300.00
Outstanding Debt	Rs.160.00	Rs.250.00

Both firms are in a steady state and are expected to grow at 5% a year in the long-term. Capital spending is expected to be offset by depreciation. The beta for both the firms is 1, and both firms are rated BBB, with an interest rate on their debt of 8.5%. (The Treasury bond rate is 7% and the risk premium is 5.5%.)

As a result of the merger, the combined firm is expected to have a cost of goods sold of only 86% of total revenues. The combined firm does not plan to borrow additional debt.

Required:

- Estimate the value of Green, operating independently.
- Estimate the value of Blue, operating independently.
- Estimate the value of the combined firm, with no synergy.
- Estimate the value of the combined firm, with synergy.
- Estimate the worth of the operating synergy.

Question 13.

The total value (equity + debt) of two companies, X Ltd. and Y Ltd. are expected to fluctuate according to the state of the economy

State of the economy	Probability	Value of X	Value of Y
Rapid growth	0.25	72	115
Slow growth	0.55	52	75
Recession	0.20	38	60

Firm 'X' and Firm 'Y' currently have a debt of Rs.42 lakhs and Rs.8 lakhs, respectively.

If the two companies were to merge, assuming that there would be no operational synergy as a result of the merger, calculate the expected value of debt and equity of the merged company.

Also explain the reasons for any difference that exists from the expected values of debt and equity, if they do not change.

Question 14.

Venus Ltd. has an issued capital of 1,00,000 Rs.10 ordinary shares. Net assets (excluding goodwill) are Rs.12,50,000 and annual earnings average Rs.7,50,000. The company is valued by the stock market at a P/E ratio of 4. Another company Mercury Ltd. has an issued capital of 50,000 ordinary shares. Net assets (excluding goodwill) are Rs.17,50,000 and annual earnings average Rs.2,00,000. The shareholders of Mercury Ltd. accept an all equity offer from Venus Ltd. valuing each share in Mercury Ltd. at Rs.20.

You are required to estimate:

- a. Earnings and assets per share of Venus before the acquisition of Mercury Ltd.
- b. Earnings and assets per share of Venus after the acquisition of Mercury Ltd.
- c. Increase or decrease in the EPS and APS for Mercury Ltd due to the merger.

Question 15.

Escorts Multimedia Ltd. is considering the acquisition of Prudential Advertising Ltd. in a stock-for-stock transaction in which Prudential Advertising Ltd. would receive Rs.84.30 for each share of its common stock. The Escorts Multimedia Ltd. does not expect any change in its P/E multiple after the merger and chooses to value the Prudential Advertising Ltd. conservatively by assuming no earnings growth due to synergy.

You are provided with the following information:

Particulars	Escorts Multimedia Ltd.	Prudential Advertising Ltd.
Earnings available for common stock (Rs.)	2,81,500	62,500
Outstanding shares (Nos.)	1,12,000	18,750
Market price per share (Rs.)	56.25	62.50

You are required to

- a. Calculate
 - i. Post-merger share price
 - ii. Post-merger equity ownership distribution
 - iii. Purchase price premium.
- b. Comment on the decision taken by the Escorts Multimedia Inc.

Question 16.

Harrison Corporation plans to acquire Erricson Corporation. The following information is available

Particulars	Harrison Corporation	Erricson Corporation
Total current earnings, E	Rs.50 million	Rs.20 million
Number of outstanding shares, S	20 million	10 million
Market price per share, P	Rs.30	Rs.20

- What is the maximum exchange ratio (ER_1) acceptable to the shareholders of Harrison Corporation if the P/E ratio of the combined entity is 12 and there is no synergy gain?
- What is the minimum exchange ratio acceptable (ER_2) to the shareholders of Erricson Corporation if the P/E ratio of the combined entity is 11 and there is a synergy benefit of 5%.
- Assuming that there is no synergy gain, at what level of P/E multiple will the lines ER_1 and ER_2 intersect?

Question 17.

Est Corporation is considering a merger with the Reebok Company. Reebok is a publicly traded company, and its current beta is 1.10. Reebok has barely been profitable, so it has paid only 20% in taxes over the last several years. Additionally, Reebok uses little debt, having a market value debt ratio of just 25%. If the acquisition is made, Est plans to operate Reebok as a separate, wholly owned subsidiary. Est would pay taxes on a consolidated basis, and thus the tax rate would increase to 40%. Additionally, Est would increase the debt capitalization in the Reebok subsidiary to a market value of 40% of assets. Est's acquisition department estimates that Reebok, if acquired, would generate the following net cash flows to Est's shareholders:

Year	Net Cash Flow
1	Rs.12,00,000
2	Rs.14,00,000
3	Rs.16,50,000
4	Rs.18,00,000
5 and beyond	Constant growth @ 5%

These cash flows include all acquisition effects. The current risk-free rate is 5.6% and the expected return on the market is 12%.

- What rate should be used to discount the given cash flows?
- What is the rupee value of Reebok to Est?
- Reebok has 12,00,000 common shares outstanding. What is the maximum price per share that Est should offer to Reebok? If the tender offer is accepted at this price, what would happen to Est's stock price?

Question 18.

Gillete Financial Services Ltd., is planning to acquire Ebit Chartered Services Ltd. in order to expand its market share so that Gillete Financial Services Ltd., will there be in a position to cater to growing demand for its products and services. The forecasted equity related cash flows of Gillete Financial Services Ltd., before and after merger is given below:

(Rs.in lakhs)

Year	1	2	3	4	5
Projected cash flow before acquisition	22.6	23.4	23.9	24.6	25.2
Projected cash flow after acquisition	23.1	24.0	24.8	25.3	26.2

The cash flows are expected to grow @ 7% beyond year 5 if Elbit Chartered Services Ltd. is not acquired and @ 9% if acquisition takes place. The other relevant data pertaining to the above companies is given below:

Company	Gillete Financial Services Ltd.	Elbit Chartered Services Ltd.
Number of outstanding shares	18,00,000	7,00,000
Market price (Rs.)	26.00	19.00
Book value (Rs.)	23.50	17.50

The cost of equity is 16%.

You are required to find out

- The maximum exchange ratio that the management of Gillete Financial Services Ltd., can offer to the shareholder of Elbit Chartered Services Ltd., so that the present value of its equity related cash flows is atleast 17% higher than the existing level.
- Whether the exchange ratio offered by Gillete Financial Services Ltd, as calculated in sub-part (a) above will be acceptable to the shareholders of Elbit Chartered Services Ltd, if the present value of pre-merger cash flows is Rs.105 lakhs.

Question 19.

As a financial analyst you have been asked by the management of Leased Circuits Ltd., which produces and sells computer software to estimate the value of their firm. The Leased Circuits had revenues of Rs.20 lakhs for the financial year ending 2003, on which it made earnings before interest and taxes of Rs.2 lakhs. The firm had debt outstanding of Rs.10 lakhs, on which pre-tax interest expenses amounted to Rs.1 lakh. The book value of equity is Rs.10 lakhs. The average beta of publicly traded firms that are in the same business is 1.30 and the average debt-equity ratio is 0.2 (based upon the market value of equity). The market value of equity of these firms is, on average, three times the book value of equity. All firms in this industry are in 35% tax bracket. Capital expenditures amounted to Rs.1 lakh during the financial year ended 2003, and is twice the depreciation charge in that year. Both items are expected to grow at the same rate as revenues for the next five years, and to offset each other in steady state.

The revenues of Leased Circuits Ltd., are expected to grow @ 20% a year for the next five years, and @ 5.0% after that. Net income is expected to increase @25% a year for the next five years, and @ 5% p.a. after that. The 365 T-bill rate is 5.5% p.a. return on market is 11%.

You are required to estimate the following for leased circuits Ltd.

- a. The cost of equity
- b. The cost of capital
- c. The value of the management's stake using
 - i. The firm approach and
 - ii. The equity approach.

Question 20.

Sunil Bansal, a computer engineer in Stockholm decides to remit 1 million of Swedish kroners by SWIFT to his father Ajay Bansal on June 30, 2003 to purchase a flat in Kolkatta. A foreign bank in Kolkatta offered a rate of Rs.5.90 / Skr to Ajay Bansal. However Ajay Bansal requested his banker (a private sector bank) to get a better rate. The branch manager contacted his dealings office at Mumbai for the rate. The dealer in Mumbai has the option to cover the transaction through Bahrain or Singapore. The spot exchange rates at Mumbai, Bahrain and Singapore markets on June 30, 2003 are given below.

Mumbai : Rs / US \$: 47.20 / 22

Rs / £ : 75.95 / 97

Bahrain : Skr / £ : 12.7532 / 39

Singapore : Skr / \$: 7.9652 / 62

You are required to determine, which market the dealer should opt to cover the position. Assume that an exchange margin of 0.005 paise is to be loaded in the rate.

Calculate the gain or loss to the customer if he relies on the rate quoted by his banker. Show your working nearest to the rupee.

Question 21.

Mr. Robinson, an Australian investor is very much interested in investing Rs.1 million in the pharmaceutical sector in India. He decides to invest in the scrip of Morepen Labs Ltd. which is listed on BSE and the details of scrip are given below

Beta of the security : 1.65

Variance of returns : $25(\%)^2$

Appreciation of Australian dollar against rupees is 3% with a variance of $10(\%)^2$. Return on BSE index is 12% annualized and return on long dated Indian Government securities is 6.5%. Assume that the correlation between the return on the scrip and Rs / AUS\$ exchange rate is zero.

You are required to estimate the expected return and risk of Mr. Robinson, if his holding period is one year.

Question 22.

A multinational company in Germany has surplus funds of Euro 2 million for three months. The treasury manager wants to toy with the idea of investing funds in currencies other than that of the home currency. He has collected the following information on the exchange rates and interest rates:

\$ / Euro	spot	1.1410 / 12
	3 months forward	20 / 19
£ / \$	spot	0.6217 / 19
	3 months forward	13 / 14

3 months interest rates (pa)

\$: 2.6% / 2.8%

£ : 3.00% / 3.6%

Euro : 3.2% / 3.4%

You are required to determine, in which market the MNC should invest to have more returns, without exposing the investment to exchange risk.

Question 23.

You are given the following information by your banker:

Exchange rates

Rs./Euro	Spot	42.38/42
Rs./\$	1 month forward	48.66/86
Euro/\$	1 month forward	1.1485/95

Interest rates

	Rs.(%)	Euro (%)
1 month	8 – 9 p.a.	3 – 3.36 p.a.

- You are required to determine the boundaries for 1 month forward Rs./Euro to prevent any possibility of covered interest arbitrage.
- If the one month forward Rs./Euro rate is 42.24/28, then verify whether there is any scope for triangular currency arbitrage in the forward rates. Also show how arbitrage profit can be made.

Question 24.

An Indian Company based at Mumbai needs short term funds of Rs.50 million for a period of 3 months. The company collected the following information from its banker:

	Rs./\$	Rs./£
Spot	48.50/55	74.05/10
3 months forward	45/50	85/90

3 months Interest rates (p.a.)

Rs : 9%

\$: 4%

£ : 6%

You are required to calculate the annualized effective cost of borrowing,

- a. If the company borrows in USD and
 - i. Covers the exchange rate risk through forward market
 - ii. Keeps the position open and spot rate after 3 months turns out to be Rs/\$ 48.90/95.
- b. If the company borrows in pounds and
 - i. Covers the exchange rate risk through forward market
 - ii. Keeps the position open and spot rate after 3 months turns out to be Rs/£ 74.75/80.

Question 25.

A Foreign Institutional Investor from U.K. proposes to invest £ 1 million in an emerging market. After a careful analysis of future prospects, India and Hong Kong are short listed. For the next year, which is also the holding period for the FII, expected rates of returns are 15% and 12% in Indian and Hong Kong markets respectively. Withholding tax rates applicable on the returns earned are 15% in India and 12% in Hong Kong. Other information available with the FII includes:

Current exchange rates

Rs./£ 69.50/70

HK \$/£ 11.15/18

Expected inflation for the next year

U.K. – 2%

India – 4%

Hongkong – 3%

You are required to find out the rate of return in India and Hong Kong in £ terms. Assume purchasing power parity holds good in both the countries.