

Solution to CA FINAL SFM NOV 18 (old course)

By – CA PRAVIIN MAHAJAN

Q1a Sonic Ltd issued 8%, 5 year bonds of Rs 1000 each having a maturity of 3 years. The present rate of interest is 12% for one year tenure. It is expected that forward rate of interest for one year tenure is going to fall by 75 basis points and further by 50 basis points for next year. This bond has a beta value of 1.02 and is more popular in the market due to less credit risk.

Calculate:

- i. Intrinsic value of the bond
- ii. Expected price of bond in the market.

Author's note – this question is a simple question of bond valuation, earlier came in NOV 13 and is from manual.

Ans Company issued 5 year bonds of Rs 1,000 each, 3 years remaining to maturity and coupon rate of 8%.

- i. Intrinsic value of bond is present value of all future cash outflows at expected rate of return.

Expected return (cost of capital) in 3 years :

1 st year	12%
2 nd year	11.25%
3 rd year	10.75%

$$\begin{aligned} \text{Intrinsic value of bond} &= \text{Present value of interest} + \text{Present value of of Redemption value} \\ &= (80 \times 0.893 + 1000 \times 0.903 \times 0.899 \times 0.893 \\ &\quad + 80 \times 0.899 \times 0.893 \\ &\quad + 80 \times 0.903 \times 0.899 \times 0.893) \\ &= (71.44 + 64.22 + 58) + 724.93 \\ &= 918.59 \end{aligned}$$

- ii. Expected price of bond in market : Since beta of bond is different from beta of market, so expected change in price of bond will be more than expected change in market.

$$\begin{aligned} &= 918.59 \times 1.02 \\ &= 936.96 \end{aligned}$$

- b. Eager Ltd. has a market capitalization of Rs 1500 crores and the current market price of its share is Rs 1,500. It made a PAT of 200 crores and the board is considering a proposal to buy back 20% of the shares at a premium of 10% to the current market price. It plans to fund this through a 16% bank loan. You are required to calculate the post buy back Earnings per share (EPS). The company's corporate tax rate is 30% .

Author's note : Simple question of buy back of shares

Ans	Market capitalisation	:	Rs 1500 crores
	Market price per share	:	Rs 1500
	Number of shares	:	1 crore
	PAT	:	Rs200 crore
	EPS	:	Rs 200
	No. of shares bought back	:	1 crore x 0.2 = 0.2 crore
	Buy back price	:	1500 x 1.1 = Rs 1650
	Total amount to be borrowed for buy back	:	Rs 1650 x 0.2 crore = Rs 330 crore
	EPS post buy back	:	$\frac{200 \text{ crore} - 0.16 \times 330 \text{ crore} (1-0.3)}{0.8 \text{ crore}}$
		:	Rs 203.8

- c. Digital exporters are holding an export bill in United States dollar (USD) 5, 00,000 due after 60 days. They are worried about the falling USD value, which is currently at Rs 75.60 per USD. The concerned Export consignment has been priced on an exchange rate of Rs 75.50 per USD. The firm's bankers have quoted a 60 day forward rate of Rs 75.20.

Calculate:

- Rate of discount quoted by the bank, assuming 365 days in a year.
- The probable loss of operating profit if the forward sale is agreed to.

Author's Note: Simple question of premium on base currency in foreign exchange from manual

Ans Indian company has to sell \$ 5, 00,000 after 60 days.

- Current spot rate : Rs 75.60 / \$
Forward rate quoted by bank : Rs 75.20 / \$

$$\begin{aligned} \text{Discount on \$} & : \frac{F - S}{S} \times 100 \\ & : \frac{75.20 - 75.60}{75.60} \times 100 \times \frac{365}{60} \\ & = 3.22 \% \text{ p.a} \end{aligned}$$

- Export consignment has been priced at an exchange rate of Rs 75.50 / \$
Probable loss of operating profit if forward sale is agreed to :
(75.50 - 75.20) 5,00,000 = Rs 1,50,000

- d. During the year 2017 an investor invested in a mutual fund. The capital gain and dividend for the year was Rs 3 per unit, which were re-invested at the year end NAV of Rs 23.75. The investor had total units of 26,750 as at the end of the year. The NAV had appreciated by 18.75% during the year and there was entry load of Rs 0.05 at the time when the investment was made.

The investor lost his records and wants to find out the amount of investment made and the entry load in the mutual fund.

Author's note: Simple question of mutual fund

Ans	Capital gain & dividend per share	Rs 3 per unit
	NAV at the end of the year	Rs 23.75
	Number of units purchased at end of year	$\frac{3}{23.75} = 0.126316$ units
	Number of units originally purchased	$\frac{26,750}{1.126316} = 23,750$ units
	NAV on date of investment	$\frac{23.75}{1.1875} = \text{Rs } 20$ /unit
	Amount of investment made in MF	23,750 x 20 = Rs 4,75,000
	Entry load on Investment	= 23750 x 0.05 = 1,187

- Q2a Robust Tech, an IT company had purchased printers 5 years ago which are due for replacement. The cost of the printers was Rs 75, 00,000 and the company depreciates these class of assets on a straight line basis for 10 years. The printers are expected to realise Rs 7, 50,000.
There is a proposal to replace all the printers in the company and as a finance manager; you are presented with the following alternatives:

Proposal 1: Purchase a new class of sophisticated network printers at a cost of Rs 1, 00,00,000 which would be depreciated over a period of 5 years and expected to realise Rs10,00,000 at the end. The purchase could either be funded through a loan at 14% repayable in 5 equal annual instalments at the end of the year. PVAF at 14% for 5 years is 3.433.

OR

Proposal 2: Help Printers Ltd. had submitted a proposal to take over the existing printers and provide on rent the new class of sophisticated network printers for the next 5 years at an annual rental of Rs18,00,000 payable at the end of the year with a clause to increase the rentals by Rs 2,00,000 on an annual basis.

You are required to suggest the best alternative to the management assuming the income tax rate is 50% and the discount rate is 7%. You may ignore realisation of scrap value and their short term capital gains/losses under both the options.

Year	1	2	3	4	5
PV @ 7%	0.935	0.873	0.816	0.763	0.713

Author's note : This is simple question of leasing. Smartly drafted to be mistaken as question of capital budgeting (Replacement) . Choice is to be made between purchase of new asset and take asset on rent. So any particulars about old asset is to be ignored as it is common in both proposals.

Question also mentions that realisation of scrap value and STCG/L is to be ignored. These particulars are of old asset.

Ans Company is considering to replace its printers purchased 5 years ago. Company has 2 options.

1. To purchase new printers for 100,00,000. Company will borrow Rs 100,00,000 @ 14%. Amount borrowed is repayable in 5 equal instalments payable at end of each year.

$$\begin{aligned} \text{Amount of instalment} \times \text{factor} &= \text{Loan amount} \\ \text{Instalment} &= \frac{100,00,000}{3.433} = 29,12,904 \end{aligned}$$

Statement of principal and interest

Instalment	Interest	principal in Each instalment	loan outstanding
29,12,904	14,00,000	15,12,904	84,87,096
29,12,904	11,88,193	17,24,711	67,62,385
29,12,904	9,46,734	19,66,170	47,96,215
29,12,904	6,71,470	22,41,433	25,54,781
29,12,904	3,58,123	25,54,781	-

Statement of cash outflows if new asset are purchased

Particulars	Cash flows	period	factor(14%)	Present value
Installments	29,12,904	1-5e	4.100	119,42,906
Tax saving on dep	9,00,000	1-5e	4.100	(36,90,000)
Tax saving on interest	7,00,000	1e	0.935	(6,54,500)
	5,94,096	2e	0.873	(5,18,646)
	4,73,367	3e	0.816	(3,86,267)
	3,35,735	4e	0.763	(2,56,166)
	1,79,061	5e	0.713	(1,27,670)
Scrap value	10,00,000	5e	0.713	<u>(7,13,000)</u>
Cash outflows if asset is purchased				55,96,657

Option 2 - To acquire asset on rent

Company will acquire asset at annual rent of 18,00,000 p.a. which will increase by 2,00,000 p.a.

Statement of cash outflows if asset acquired on rent

Particulars	cash flows	period	factor	Present value
Rent (net of tax)	9,00,000	1e	0.935	8,41,500
	10,00,000	2e	0.873	8,73,000
	11,00,000	3e	0.816	8,97,600
	12,00,000	4e	0.763	9,15,600
	13,00,000	5e	0.713	<u>9,26,900</u>
	Cash outflows if asset taken on rent			44,54,600

Since cash outflows are lower if asset is taken on rent, so acquiring asset on rent is best alternative.

- b. Airborne Ltd. wants to take advantage of a new government scheme of connecting smaller towns and wants to purchase one-turboprop airplane at a cost of Rs 5 crores. It has obtained permission to fly on 4 sectors. The company had provided the following estimates of its costs and revenues. The cost of capital is 16% and the company depreciates its assets over a period of 25 years on a straight line basis. Currently it is operating in a 30% tax regime and under the new government scheme it enjoys a 100% tax waiver for the first 3 years.

- Passenger capacity of the aircraft : 60 passengers
- Expected operational capacity : 80%
- Per aircraft no. of trips on a daily basis: 4

	Amount in Rs
Average realisation per passenger	2,000
Annual cost of Manpower	2,50,00,000
Airport handling charges – Fixed per day	10,000
Annual repairs and maintenance	5,00,00,000
Daily operating costs	75,000

The costs with the exception of airport handling charges are expected to increase 10% year on year and the operational capacity would go up by 90% from year 3.

The certainty of achieving the projected cash flows in the first 5 years are 0.8, 0.9, 0.75 and 0.7 and 0.7 and PV at 16% are 0.862, 0.743, 0.641, 0.552, 0.476 respectively.

Advise the management on the feasibility of the project, assuming the aircraft operates on all the 365 days in a year.

Author's note: This question is difficult for student to handle, given the pressure of other questions and time available in exam. Certain ambiguity exist in question as asset is to be depreciated over 25 years but certainty factors are available for 5 years. Besides certain costs are growing 10% p.a., and that is not perpetual. Will be interesting to see ICAI's solution of this question. Asking student to solve this question in exam is hardship on them.

An endeavour is made to solve this question as it is expected from student to solve this question in given time along with other questions.

Ans

Statement of NPV

Particulars	Cash flows	CE Factor	certain cash flows	factor	Present value
Purchase price	500,00,000	1	500,00,000	1	(500,00,000)
Operating cash inflows	341,35,000	0.8	273,08,000	.862	235,39,496
	238,97,500	0.9	215,07,750	.743	159,80,258
	222,89,360	0.75	167,17,020	.641	107,15,610
	69,80,707	0.70	48,86,495	.552	26,97,345
	(31,63,323)	0.70	(22,14,326)	.476	<u>(10,54,019)</u>
NPV					(18,78,690)

Since NPV is negative project is not feasible.

Statement of operating cash inflows

	1	2	3	4	5
Revenue	60 x 0.8 x 4 x 2000 x 365 = 1401,60,000	1401,60,000	60 x .9 x 4 x 2000 x 365 = 1576,80,000	1576,80,000	1576,80,000
Annual fixed Cost (manpower + repair)	750,00,000	825,00,000	907,50,000	998,25,000	1098,07,500
Handling	36,50,000	36,50,000	36,50,000	36,50,000	36,50,000
operating cost	<u>273,75,000</u>	<u>301,12,500</u>	<u>409,90,640</u>	<u>450,89,705</u>	<u>495,98,675</u>
PBDT	341,35,000	238,97,500	222,89,360	91,15,295	-53,76,175
Depreciation	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>
PBT	321,35,000	218,97,500	202,89,360	71,15,295	- 73,76,175
PAT	321,35,000	218,97,500	202,89,360	49,80,707	-51,63,323
Depn	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>	<u>20,00,000</u>
Cash flows	341,35,000	238,97,500	222,89,360	69,80,707	-31,63,323

Note : cash flows of only 5 years are ascertained, although life of project is 25 years.

Operating cost ,manpower and repairs are increasing with growth rate of 10% p.a but are not perpetual.

Students should follow answer of ICAI.

Q3a Mr Gupta is considering investment in the shares of R Ltd. He has the following expectations of return on the stock and the market :

Probability	Return %	
	R Ltd	Market
0.35	30	25
0.30	25	20
0.15	40	30
0.20	20	10

You are required to :

- Calculate the expected return, variance, and standard deviation for R Ltd.
- Calculate the expected return variance and standard deviation froth market.
- Find out the beta co-efficient for R Ltd shares.

Author's note : simple basic question of Portfolio management

R	P	PR	(R- \bar{R})	P(R- \bar{R}) ²	M	PM	(M- \bar{M})	P(M- \bar{M}) ²	P(R- \bar{R})(M- \bar{M})
30	0.35	10.5	2	1.40	25	8.75	3.75	4.923	2.625
25	0.30	7.5	-3	2.7	20	6	-1.25	0.469	1.125
40	0.15	6	12	21.6	30	4.5	8.75	11.484	15.75
<u>20</u>	0.20	<u>4</u>	<u>-8</u>	<u>12.8</u>	<u>10</u>	<u>2</u>	-11.25	<u>25.313</u>	<u>18</u>
115		28		38.5	85	21.25		42.189	37.5

- Expected return of R Ltd = 28
 Variance of R Ltd $\sigma_R^2 = P(R - \bar{R})^2 = 38.5$
 Standard Deviation of R Ltd $\sigma_R = \sqrt{P(R - \bar{R})^2} = \sqrt{38.5} = 6.205$
- Expected Return of M Ltd $\bar{M} = 21.25$
 Variance of M Ltd $\sigma_M^2 = P(M - \bar{M})^2 = 42.189$
 $\sigma_M = \sqrt{P(M - \bar{M})^2} = \sqrt{42.189} = 6.495$
- β of R Ltd = $\frac{COV_{R,M}}{\sigma_M^2} = \frac{37.5}{42.189} = 0.89$
 $COV_{R,M} = P(R - \bar{R})(M - \bar{M}) = 37.5$

- The company has an EPS of Rs 2.5 for the last year and the DPS of Rs 1. The Earnings is expected to grow at 2% a year in long run. Currently it is trading at 7 times its earnings. If the required rate of return is 14%, compute the following:
 - An estimate of the P/E ratio using Gordon growth model.
 - The long run growth rate implied by the current P/E ratio.

Author'snote : Simple question of dividend

Ans :

$$E_0 = 2.5 \quad E_1 = 2.5 (1.02) = 2.55$$

$$D_0 = 1 \quad D_1 = 1 (1.02) = 1.02$$

$$G = 2\% \quad \text{Dp ratio} = 0.4 \quad \text{retention ratio (b)} = 0.6$$

Current market price is 7 times its earnings = $7 \times 2.5 = 17.5$

1. MP according to gordon model

$$P_0 = \frac{E_1(1-b)}{k_e - br} = \frac{2.55 (1-0.6)}{0.14 - 0.02} = 8.5$$

$$\text{PE according to Gordon} = \frac{MPS}{EPS} = \frac{8.5}{2.5} = 3.4$$

2. Growth rate according to current PE ratio

$$\begin{aligned} \text{Current PE ratio} &= 7 \\ \text{Current MP} &= \text{PE ratio} \times \text{current EPS} \\ &= 7 \times 2.5 \\ &= 17.5 \end{aligned}$$

$$P_0 = \frac{E_1(1-b)}{k_e - br}$$

$$17.5 = \frac{2.55 (1-0.6)}{0.14 - g}$$

$$17.5 (0.14 - g) = 1.02$$

$$2.45 - 17.5 g = 1.02$$

$$g = \frac{2.45 - 1.02}{17.5} = 8.17\%$$

Q4a As an investor you had purchased a 4 month call option on the equity shares of Z Ltd of Rs 10, of which the current market price is Rs 132 and exercise price of Rs 150. You expect the price to range between Rs 120 to Rs 190. The expected share price of Z Ltd and related probability is given below :

Expected Price	120	140	160	180	190
Probability	.05	.20	.50	.10	.15

Compute the following:

- Expected share price at the end of 4 months
- Value of call option at the end of 4 months, if the exercise price prevails.
- In case the option is held to its maturity, what will be the expected value of the call option ?

Author's Note : Simple repetitive question on Expected gain model of value of option from NOV 12, Q 61 of book pg 1.19

Ans i.

Statement of expected share price at end of 4months

Expected Price	Probability	price x prob
120	.05	6
140	.20	28
160	.50	80
180	.10	18
190	.15	<u>28.5</u>
		160.5

ii. value of call option at the end of 4 months if EP prevails = MP - EP
= 150 - 150
= 0

iii. Value of call option (assuming expected market price does not prevail on due date)

Statement of expected Gain

MP	EP	gain	probability	Expected gain
120	150	-	.05	-
140	150	-	.20	-
160	150	10	.50	5
180	150	30	.10	3
190	150	40	.15	<u>6</u>
				14

Value of option at end of 4 months = 14

b. A mutual fund raised Rs. 150 lakhs on April 1, 2018 by issue of 15 lakh units at Rs 10 per unit. The fund invested in several capital market instrument to build a portfolio of Rs 140 lakhs. Initial expenses amounted to Rs 8 lakhs. During the month of April, the fund sold certain instruments costing Rs 44.75 lakhs for Rs 47 lakhs and used the proceeds to purchase certain other securities for Rs 41.6 lakhs. The fund management expenses for the month amounted to Rs 6 lakhs of which Rs 50,000 was in arrears. The fund earned dividends amounting to Rs 1.5 lakhs and it distributed 80% of the realized earnings. The market value of the portfolio on 30th April, 2018 as Rs 147.85 lakhs.

An investor subscribed to 1000 units on April 1 and disposed it off at closing NAV on 30th April. Determine his annual rate of earnings.

Author's Note : Simple question of mutual funds. Q3 of book Pg 9.1

Ans

Statement of cash in hand of Mutual fund on 30th April

Cash received on issue of Mutual fund	150 lakhs
- Fund invested in market	(140 lakhs)
- Initial expenses	(8lakhs)
+ sale of investments	47 lakhs
- Purchase of investments	(41.6 lakhs)
- Fund management expenses paid	(5.5 lakh)
+ Dividend received	1.5 lakhs
- Earnings distributed (1.5lakh + 2.25 lakh) 0.8	<u>(3 lakh)</u>
Cash in hand on 30 th April	0.4 Lakh

Statement of Closing NAV

cash in hand	0.4 lakh
Value of investments	147.85 lakhs
- Accrued expenses	<u>(0.5 lakh)</u>
	147.75 lakhs
NAV on 30 th April	$\frac{147.75 \text{ lakh}}{15 \text{ lakh}}$ Rs 9.85 / unit

Investor has 1000 units

$$\text{Dividend received by investor per unit} = \frac{1.2 \text{ lakh}}{15 \text{ lakh}} = 0.08 / \text{unit}$$

$$\text{Capital received per unit} = \frac{2.25 \text{ lakh}}{15 \text{ lakh}} = 0.12 / \text{unit}$$

$$\begin{aligned} \text{Earnings of investor} &= \frac{\text{dividend received} + \text{cap gain received} + (\text{closing NAV} - \text{Opening NAV})}{\text{opening NAV}} \\ &= \frac{0.08 + 0.12 + 9.85 - 10}{10} \times 100 \times 12 \\ &= 6 \% \text{ p.a} \end{aligned}$$

Q5a The Treasury desk of a global bank incorporated in UK wants to invest GBP 200 million on 1st Jan, 2019 for a period of 6 months and has the following options:

- (1) The Equity Trading desk in japan wants to invest the entire GBP 200 million in high dividend yielding Japanese securities that would earn a dividend income of JPY 1,182 million. The dividends are declared and paid on 29th June. Post dividend, the securities are expected to quote at a 2% discount. The desk also plans to earn JPY 10 million on a stock borrow lending activity because of this investment. The securities are to be sold on June 29 with a T+1 settlement and the amount remitted back to the Treasury in London.
- (2) The Fixed Income desk of US proposed to invest the amount in 6 month G-Secs that provides a return of 5% p.a.

The exchange rates are as follows:

Currency Pair	1-Jan-2019(Spot)	30-Jun-2019(Forward)
GBP-JPY	148.0002	150.0000
GBP-USD	1.28000	1.30331

As a treasurer, Advise the bank on the best investment option. What would be your decision from a risk perspective, You may ignore taxation.

Author's note : language based question of forex. Question checked the ability of students to read the question which is not in manual or any other known material. Hats off to students who read the question and attempted it.

Ans Bank in UK wishes to invest 200 mil £ on 1st January 2019 for 6months. Bank has 2 options

1. Investment can be made in high dividend yielding Japanese securities for 6 months

¥ invested in high dividend yielding securities	
148.0002 x 200	29,600.04 mil ¥
Dividend received on investments	1,182 mil ¥
Earnings from stock lending	10 mil ¥
Sale of investments at 98%	<u>29,008.0392 mil ¥</u>
¥ received from investmnt on 30 th june	30,200.0392 mil
Forward rate on 30 th june	¥ 150 /£
£ Received on 30 th june	201.333 mil £

2. Bank can invest 200 mil £ in Fixed income securities in US @ 5 % p.a for 6months.

£ invested		200 Mil
Spot rate		\$ 1.28 / £
\$ equivalent of 200mil £ invested		256 mil \$
\$received after 6 months	256 (1.025)	262.4 mil \$
Forward rate		1.30331 /£
£ received after 6 months		201.333 mil

Since amount received in dividend yielding securities and fixed income securities is same, so bank can invest in any of the options.

However from risk perspective, investment should be made in fixed income securities.

(b) Spot rate 1 US\$=Rs 68.50

USD premium on a six month forward is 3%. The annualized interest in US is 4% and 9% in India.

Is there any arbitrage possibility? If yes, how a trader can take advantage of the situation if he is willing to borrow USD 3 million.

Author's note : Simple question on interest rate arbitrage (one way quote)

Ans Spot Rate Rs 68.50 / \$
 \$ premium on 6 month forward is 3 % (assumed p.a). So 6 month premium on \$ is 1.5%
 6 month forward rate is 68.50 x 1.015 = Rs 69.53 /\$

6 month forward rate according to IRPT =

$$\begin{aligned} \frac{F_A}{B} &= \frac{S_A}{B} \times \frac{1 + r_A}{1 + r_B} \\ &= 68.50 \times \frac{1 + .09 \times \frac{6}{12}}{1 + .04 \times \frac{6}{12}} \\ &= 68.50 \times \frac{1.045}{1.02} \end{aligned}$$

Synthetic rate = Rs 70.18 / \$

Since Actual forward rate of Rs 69.53/\$ is less than synthetic forward rate of Rs 70.18/\$, so arbitrage exist

Investor will borrow \$ and deposit Rupee.

1. Investor borrowed 3 mil \$ for 6 months @ 4% p.a
2. Investor will convert 3 mil \$ in Rs @ spot rate of Rs 68.50 /\$
3. Investor will deposit Rs 205.5 mil for 6 months @ 9% p.a
4. Rupee received after 6months 205.5 x 1.045 = 214.75
5. Investor will convert 214.75 mil Rs in \$ @ 6 months forward rate of Rs 69.53 / \$ = \$ 3.09 mil
6. \$ payable after 6 months = 3 x 1.02 = \$ 3.06 mil
7. Profit on arbitrage 0.03 mil \$

Q6a C Ltd. & D Ltd. are contemplating a merger deal in which C Ltd. will acquire D Ltd. The relevant information about the firms are given as follows:

	C Ltd.	D Ltd.
Total Earnings (E) (in millions)	Rs 96	Rs 30
Number of outstanding shares (s) (in millions)	20	14
Earnings per share (EPS) (Rs)	4.8	2.143
Price earnings ratio (P/E)	8	7
Market Price per share (P) (RS)	38.4	15

- (i) What is the maximum exchange ratio acceptable to the shareholders of C Ltd., if the P/E ratio of the combined firm is 7 ?
- (ii) What is the minimum exchange ratio acceptable to the shareholders of D Ltd., if the P/E ratio of the combined firm is 9 ?

Author's note : Simple question of Maximum and minimum exchange ratio of merger and acquisition. Q 21 of book Pg 4.8

Ans C Ltd acquired DLtd.

	C	D
Earnings	96 mil	30mil
Number of shares	20mil	14 mil
EPS	4.8	2.143
PE ratio	8	7
MP /Share	38.4	15
Pre merger Market cap	768 mil	210 mil

1. Maximum Exchange ratio if PE ratio is 7

Total market Capitalisation after merger (Total earnings x PE ratio after merger)	=	(96 mil + 30mil) 7
	=	882 mil
Value retained by C Ltd after merger (Its pre merger value)	=	768 Mil
Value given to DLtd	=	114 mil
MP of C Ltd after Merger	=	$\frac{768}{20} = 38.4$
Number of shares given to D Ltd	=	$\frac{114}{38.4} = 2.96875$ mil shares
Maximum exchange ratio	=	$\frac{2.96875}{14} = 0.212 : 1$

2. Minimum Exchange ratio if PE ratio is 9

Total market cap after merger (Total Earning x PE)	=	126mil x 9	=	1134 Mil
Value given to D Ltd (pre merger value)	=		=	210 Mil
Value retained by C Ltd	=		=	1134 – 210
	=		=	924 mil
Market price of C Ltd after Merger	=		=	$\frac{924}{20} = 46.2$
Shares given to D Ltd	=		=	$\frac{210}{46.2}$
	=		=	4.5455 mil
Minimum exchange ratio	=		=	$\frac{4.5455}{14}$
	=		=	0.3247 : 1

(b) AMKO Limited has issued 75,000 equity shares of Rs 10 each. The current market price per share is Rs 36. The company has a plan to make a rights issue of one new equity share at a price of Rs 24 for every four shares held.

You are required to:

- (i) Calculate the theoretical post-rights price per share.
- (ii) Calculate the theoretical value of the right alone.

Author's note : Simple question of right issue

Ans	Existing shares	=	75,000
	Current market price	=	Rs 36
	Shares issued in right issue	=	18,750 shares
	Issue price of right shares	=	Rs 24

i. Post Right price per share =

$$\frac{\text{No. of shares before right} \times \text{MP before right} + \text{No. of right shares} \times \text{price per right share}}{\text{shares before right} + \text{right shares offered}}$$

$$= \frac{75,000 \times 36 + 18,750 \times 24}{75,000 + 18,750}$$

$$= \frac{27,00,000 + 4,50,000}{93,750} = 33.6$$

ii. Value of Right (of 1 right share) = post right price per share – issue price of right share
 = 33.6 - 24
 = 9.6

$$\text{Value of 1 coupon for right share} = \frac{9.6}{4} = 2.4 \text{ per share.}$$

Q7 Write short notes on any **Four** of the following:

- Enumerate 'Strategy' at different levels of hierarchy.
- Benefits to the issuer of Commercial Paper.
- Define any four Pre-conditions for an Efficient Money Market.
- Distinguish between future contract and option contract.
- What are the various reasons for demerger or divestment.