

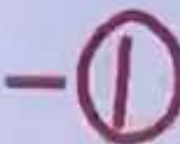


MERGER

- ① MERGER 
- ② Demerger 
- ③ Leveraged buyout - 
- ④ Residual

① MERGER

① Stock DEAL

② Cash DEAL

1 Stock DEAL

- Whenever one company takes over another company in exchange of shares is called "Stock DEAL"
- Calculation of Share Exchange Ratio or Swap Ratio

$$\text{Swap Ratio} = \frac{\text{Value per share of V. co.}}{\text{Value per share of P. co.}}$$

Example - 01

A Ltd wants to take over B Ltd.

	<u>A Ltd</u> P.Co ⁺	<u>B Ltd</u> V.Co ⁻
No of shares	10,000	2,000
Paid up value (FV)	₹ 100	₹ 10
ESC	₹ 10,00,000	₹ 20,000
R&S	₹ 2,00,000	₹ 4,000
✓ EAT	₹ 1,50,000	₹ 16,000
EPS $\left[\frac{EAT}{N}\right]$	₹ 15 ✓	₹ 8 ✓
MPS	₹ 150 ✓	₹ 32 ✓
P/E Ratio $\left(\frac{MPS}{EPS}\right)$	10 times	4 times
<u>Net Worth</u>	₹12,00,000	24,000
BVPS	✓ ₹ 120	✓ ₹ 12

Handwritten notes: 12,00,000 (with arrow pointing to Net Worth of A Ltd), 1200000 (with arrow pointing to Net Worth of B Ltd)

Calculate share Exchange Ratio

<u>BASIS</u>	<u>Weight</u>
MPS	25%
EPS	40%
BVPS	35%

- No. of shares to be issued by A Ltd. to shareholder of B Ltd.
- Calculate post merger EPS.
- Impact on EPS due to merger & Impact on earnings.

- (iv) Calculate post merger MPS, if post merger P/E ratio is 12 times.
- (v) Impact on MPS due to merger.
- (vi) Calculate market value of A Ltd. after merger.
- (vii) Impact on market value due to merger shareholder.
- (viii) Calculate Swap ratio, So that EPS of A Ltd. before merger & after merger same.
- (ix) Calculate swap ratio, So that EPS of B Ltd. Shareholders before merger & after merger should be same.

Calculation of Swap Ratio

• MPS Basis

$$\begin{aligned}\text{Swap Ratio} &= \frac{\text{MPS of V.Co}}{\text{MPS of P.Co}} \\ &= \frac{32}{150} = 0.213:1\end{aligned}$$

• EPS Basis

$$\begin{aligned}\text{Swap Ratio} &= \frac{\text{EPS V.Co}}{\text{EPS of P.Co.}} \\ &= \frac{8}{15} = 0.533:1\end{aligned}$$

• BVPS Basis

$$\text{Swap Ratio} = \frac{12}{120} = 0.10:1$$

$$\begin{aligned} \text{Swap Ratio} &= (0.213 \times 25\%) + (0.533 \times 40\%) \\ &\quad + (0.10 \times 35\%) \\ &= 0.3:1 \end{aligned}$$

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No. of shares to be issued by A Ltd

$$\begin{aligned}\text{No. of shares} &= \text{No. of shares of V. Co} \times \text{Swap Ratio} \\ &= 2000 \text{ shares} \times 0.3 = 600 \text{ shares}\end{aligned}$$

Post MERGER EPS

$$\begin{aligned}\text{Post Merger EPS} &= \frac{\text{Combined Earnings}}{\text{Total No. of shares}} \\ &= \frac{150000 + 16000}{10000 + 600} = ₹ 15.66\end{aligned}$$

③ Impact on EPS

	A4d	B4d
pre merger EPS	15.00	8
Post Merger EPS	15.66	4.698 (15.66 × 0.3) (0.30)
	Increase 0.66	3.302 Decrease

$(1) =$
 $=$

* Equivalent EPS of V.CO = Post MERGER EPS × Swap Ratio

Impact on Earnings

	A4d	B4d.
Earnings before MERGER	150000	16000
Earnings after MERGER	(10000 × 15.66) 156600	(600 × 15.66) 9400
Increase	6600	6600 Decrease

(iv) Post MERGER MPS

$$\begin{aligned}\text{Post Merger MPS} &= \text{Post Merger EPS} \times \text{Post Merger P/E Ratio} \\ &= 15.66 \times 12 = ₹ 187.92\end{aligned}$$

* If Post Merger P/E Ratio is not given in question, then take P/E Ratio of P.Co. before merger

(v) Impact on MPS due to Merger

	A Ltd	B Ltd.
MPS before merger	150	32
MPS after Merger	187.92	56.38 (187.92 × 0.3)
Increase	37.92	24.38 Increase

VI Market Value of A Ltd after Merger

$$\begin{aligned}\text{Post Merger Market Cap.} &= \text{No. of Shares} \times \text{MPS after Merger} \\ &= 10600 \times 187.92 = 1991952\end{aligned}$$

(VII) Impact on Market Value

	Atd	Btd.
Market Cap before Merger	(10000×150) ₹ 1500000	(2000×32) 64000
Market cap after Merger	(10000×187.92) ₹ 1879200	(600×187.92) 112752
Increase	<u>379200</u>	<u>48752</u> Increase

(Viii) Swap Ratio

Pre Merger EPS of A Ltd = Post Merger EPS of A Ltd

Pre Merger EPS of A Ltd = ₹ 15

Post Merger EPS = $\frac{\text{Combined Earnings}}{\text{Post merger no. of shares}}$

Let assume Swap Ratio be x

$$15 = \frac{150000 + 15000}{10000 + 2000x}$$

$$150000 + 30000x = 166000$$

$$x = \frac{166000 - 150000}{30000} = 0.533:1$$

Alternative

[EPS should be Maintained]
Then swap Ratio on the Basis of EPS

$$\text{Swap Ratio} = \frac{\text{EPS of V.co}}{\text{EPS of P.co}} = \frac{8}{15} = 0.533:1$$

Let us assume swap Ratio be x at which
pre merger EPS of V.CO should be Equal to
post merger EPS of V.CO.

$$\frac{150000 + 16000}{10000 + 2000x} \times x = 8$$

$$x = 0.533:1$$

Alternative

$$\text{Swap Ratio} = \frac{\text{EPS of V.CO}}{\text{EPS of P.CO}} = \frac{8}{15} = 0.533:1$$

QUESTION - 03

ABC Ltd. is a company operating in the software industry. It is considering the acquisition of XYZ Ltd. which is also into software industry. The following information are available for the companies:

	ABC Ltd.	XYZ Ltd.
Earnings after tax (₹)	9,00,000	2,40,000
Number of equity shares	1,50,000	60,000
P/E ratio (no. of times)	14	10

ABC Ltd. is planning to offer a premium of 25% over the market price of XYZ Ltd. Required:

- What is the swap ratio based on current market price?
- Find the number of shares to be issued by ABC Ltd. to the shareholders of XYZ Ltd.
- Compute the new EPS of ABC Ltd. after merger and comment on the impact of merger.
- Determine the market price of the share when P/E ratio remains unchanged.

Workings

	ABC	XYZ
EAT	900000	240000
÷ No.	150000	60000
EPS	₹6	₹4
(×) P/E Ratio	14	10
MPS	₹84	₹40
MPS of XYZ = ₹40 × 1.25 = ₹50		
① Swap Ratio =	$\frac{₹50}{₹84} = 0.60$	

(v) Compute the market price when P/E declines to 12 and comment on the results. Figures are to be rounded off to 2 decimals.

(Exam November - 2019)

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② No. of Shares to be issued

$$\begin{aligned} \text{No.} &= 60000 \text{ shares} \times 0.6 \\ &= 36000 \text{ shares} \end{aligned}$$

③ post Merger EPS

$$\begin{aligned} \text{Post Merger EPS} &= \frac{900000 + 240000}{150000 + 360000} \\ &= ₹ 6.13 \end{aligned}$$

1 Impact on EPS

	ABC	XYZ
pre merger EPS	6.00	4.00
post merger EPS	6.13	3.68 (6.13 × 0.6)
	Increase 0.13	(0.32) Decrease

④ Post Merger MPS

$$\text{Post Merger MPS} = ₹ 6.13 \times 14 = ₹ 85.82$$

⑤ Post Merger MPS & Impact

$$\text{Post Merger MPS} = ₹ 6.13 \times 12 = ₹ 73.56$$

Impact on MPS

	ABC	XYZ
pre merger MPS	84	40
post merger MPS	73.56	44.14 (73.56 × 0.6)
	Loss 10.44	4.14 Gain

QUESTION - 04

B Ltd. Wants to acquire S Ltd. and has offered a swap ratio of 2:3 (2 shares for every 3 share of S Ltd.). Following information is available:

Particulars	B Ltd.	S Ltd.
Profit after tax (in ₹)	21,00,000	4,50,000
Equity shares outstanding (Nos.)	6,00,000	1,80,000
EPS (₹)	3.5	2.5
PE Ratio	10 times	7 times
Price quoting per share on BSE before the merger announcement (₹)	35.00	17.50

Required:

- The number of equity shares to be issued by B Ltd. for acquisition of S Ltd.
- What is the EPS of B Ltd. after the acquisition?
- Determine the equivalent earnings per share of S Ltd. and calculate per share gain or loss to shareholders of S Ltd.
- What is the expected market price per share of B Ltd. after the acquisition, assuming its PE Multiple remains unchanged?
- Determine the market value of the merged firm.

① No. of Shares to be issued

$$\text{NO.} = 180000 \times \frac{2}{3} = 120000 \text{ Shares}$$

② Post Merger EPS

$$\begin{aligned} \text{Post Merger EPS} &= \frac{2100000 + 450000}{600000 + 120000} \\ &= ₹ 3.54 \end{aligned}$$

③ Equivalent EPS & Impact

$$\text{Equivalent EPS} = ₹ 3.54 \times \frac{2}{3} = 2.36$$

Impact

$$\text{EPS before Merger} = ₹ 2.50$$

$$\text{EPS after Merger} = ₹ 2.36$$

$$\text{Loss} = \underline{\underline{₹ 0.14}}$$

(vi) After the announcement of merger, price of shares of S Ltd. rose by 10% on BSE. Mr. X, an investor, having 10,000 shares of S Ltd. is having another investment opportunity, which yields annual return of 14% is seeking your advice whether he needs to offload the shares in the market or accept the shares from B Ltd.

(RTP May - 2022)

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④ Post Merger MPS

$$\begin{aligned}\text{Post Merger MPS} &= 3.54 \times 10 \\ &= ₹ 35.40\end{aligned}$$

⑤ Market Value of Merged firm

$$\begin{aligned}\text{Market Value} &= 72000 \text{ shares} \times 35.40 \\ &= ₹ 25488000\end{aligned}$$

⑥ Calculation of Return

price of share of S Ltd after Merger
Announcement

$$\text{price} = ₹ 17.50 \times 1.10 = ₹ 19.25$$

$$\text{If Accept B Ltd share} = \frac{2.36}{19.25} \times 100 = 12.26\%$$

$$\text{If Sell shares} = 14\%$$

sell shares today & earn high Return i.e. 14%

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Page 83
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H.W
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QUESTION – 05

Cauliflower Limited is contemplating acquisition of Cabbage Limited. Cauliflower Limited has 5 lakh shares having market value of ₹ 40 per share while Cabbage Limited has 3 lakh shares having market value of ₹ 25 per share. The EPS for Cabbage Limited and Cauliflower Limited are ₹ 3 per share and ₹ 5 per share respectively. The managements of both the companies are discussing two alternatives for exchange of shares as follows:

- (i) In proportion to relative earnings per share of the two companies.
- (ii) 1 share of Cauliflower Limited for two shares of Cabbage Limited.

0.5

Required:

- (a) Calculate the EPS after merger under both the alternatives.
- (b) Show the impact on EPS for the shareholders of the two companies under both the alternatives.

(PM & RTP November – 2021)

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QUESTION - 08

A Ltd, a listed company, is considering merger of B Ltd. which is also a listed company, with itself by means of a stock swap (exchange). B Ltd. has agreed to a plan under which A Ltd. will offer the current market value of B Ltd.'s shares.

Additional Information:

Particulars	A Ltd.	B Ltd.
Earnings after tax (₹)	10,00,000	2,50,000
Number of shares outstanding	4,00,000	2,00,000
Current market price (₹) per share	50	20

On the basis of above information, you are required to calculate the following:

- (i) What is the pre-merger Earnings per Share (EPS) and P/E ratio of both the companies?
- (ii) If B Ltd.'s P/E is 10, what is its current market price per share? What is the exchange ratio? What will A Ltd.'s post-merger EPS be?
- (iii) What must the exchange ratio be for A Ltd.'s Pre-merger and Post-merger EPS to be the same?

Handwritten notes in red ink:

- 500000
- 0.25
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- H.W COPY
- mfs
- 2.5
- 1.25
- 16
- 1200
- 20
- 16

QUESTION - 14

MK Ltd. is considering acquiring NN Ltd. The following information is available:

Company	Earning after Tax (₹)	No. of Equity Shares	Market Value Per Share (₹)
MK Ltd.	60,00,000	12,00,000	200.00
NN Ltd.	18,00,000	3,00,000	160.00

Exchange of equity shares for acquisition is based on current market value as above. There is no synergy advantage available.

- (i) Find the earning per share for company MK Ltd. after merger, and
- (ii) Find the exchange ratio so that shareholders of NN Ltd. would not be at a loss.

(SM, PM & MTP October - 2020)

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5
6

EPS

EP

1:20:1

→ EPS ↓

P/E

0.8

P.CO

V.C.

EPS

200.00
160.00

QUESTION - 15

ABC Ltd. is intending to acquire XYZ Ltd. by merger and the following information is available in respect of the companies:

	ABC Ltd.	XYZ Ltd.
Number of equity shares	10,00,000	6,00,000
Earnings after tax (₹)	50,00,000	18,00,000
Market value per share (₹)	42	28

Required:

- ✓ (i) What is the present EPS of both the companies?
- (ii) If the proposed merger takes place, what would be the new earning per share for ABC Ltd.? Assume that the merger takes place by exchange of equity shares and the exchange ratio is based on the current market price.
- (iii) What should be exchange ratio, if XYZ Ltd. wants to ensure the earnings to members are same as before the merger takes place?

(Study Materials & PM)

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EPS

P/E 8.50 9.33

QUESTION – 17

A Ltd. wants to acquire T Ltd. and has offered a swap ratio of 1:2 (0.5 shares for every one share of T Ltd.). Following information is provided:

	A Ltd.	T. Ltd.
Profit after tax	₹18,00,000	₹3,60,000
Equity shares outstanding (Nos.)	6,00,000	1,80,000
EPS	₹3	₹2
PE Ratio	10 times	7 times
Market price per share	₹30	₹14

Required:

- (i) The number of equity shares to be issued by A Ltd. for acquisition of T Ltd.
- (ii) What is the EPS of A Ltd. after the acquisition?
- (iii) Determine the equivalent earnings per share of T Ltd.
- (iv) What is the expected market price per share of A Ltd. after the acquisition, assuming its PE multiple remains unchanged?
- (v) Determine the market value of the merged firm.

(Study Materials & PM) (Page No. 32)

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QUESTION - 18

Alfa Ltd. wants to acquire Beta Ltd. and has offered a swap ratio of 1:2 (0.5 shares for every one share of Beta Ltd.) Following information is provided:

	Alfa Ltd.	Beta Ltd.
Profit after tax (₹)	18,00,000	3,60,000
Equity shares outstanding (Nos.)	6,00,000	1,80,000
EPS (₹)	3	2
PE Ratio	10 times	7 times
Market price per share (₹)	30	14

- (i) You are required to determine:
- The number of equity shares to be issued by Alfa Ltd. for acquisition of Beta Ltd.
 - The EPS of Alfa Ltd. after the acquisition.
 - The equivalent earnings per share of Beta Ltd.
 - The expected market price per share of Alfa Ltd. * after the acquisition, if PE increases to 12 times.
 - The market value of the merged firm.
- (ii) If you are the shareholder of Beta Ltd. and holding 100 shares, will you be interested to sell your stake? Why?

(Exam Nov-2022)

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(i)

(a) No. of Shares to be issued

$$\text{No.} = 180000 \times 0.5 = 90000$$

$$\text{(b) Post Merger EPS} = \frac{180000 + 360000}{600000 + 90000} = ₹ 3.13$$

$$\text{(c) Equivalent EPS} = 3.13 \times 0.5 = ₹ 1.56$$

$$\text{(d) Post Merger MPS} = 3.13 \times 12 = ₹ 37.56$$

$$\text{(e) Market Value} = 690000 \times 37.56 = ₹ 25916400$$

(ii)

If sell shares before merger

$$(100 \text{ shares} \times ₹14) = ₹1400$$

Market Value of shares after merger

$$(100 \times 0.5) = 50 \text{ shares} \times ₹37.56 = ₹1878$$

$$\text{Increase in market value of shares } (1878 - 1400) = ₹478$$

Shareholder should not sell shares

QUESTION – 19

The following information is provided related to the acquiring Firm Mark Limited and the target Firm Mask Limited:

	Firm Mark Limited	Firm Mask Limited
Earning after tax (₹)	2,000 lakhs	400 lakhs
Number of shares outstanding	200 lakhs	100 lakhs
P/E ratio (times)	10	5

Required:

- (i) What is the Swap Ratio based on current market prices?
- (ii) What is the EPS of Mark Limited after acquisition?
- (iii) What is the expected market price per share of Mark Limited after acquisition, assuming P/E ratio of Mark Limited remains unchanged?
- (iv) Determine the market value of the merged firm.
- (v) Calculate gain/loss for shareholders of the two independent companies after acquisition

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QUESTION – 20

XYZ Ltd. wants to purchase ABC Ltd. by exchanging 0.7 of its share for each share of ABC Ltd. Relevant financial data are as follows:

	XYZ	ABC
Equity shares outstanding	10,00,000	4,00,000
EPS (₹)	40	28
Market price per share (₹)	250	160

(i) Illustrate the impact of merger on EPS of both the companies.

(ii) The management of ABC Ltd. has quoted a share exchange ratio of 1:1 for the merger. Assuming that P/E ratio of XYZ Ltd. will remain unchanged after the merger, what will be the gain from merger for ABC Ltd.

(iii) What will be the gain/loss to shareholders of XYZ Ltd.?

(iv) Determine the maximum exchange ratio acceptable to shareholders of XYZ Ltd.

(SM, Exam November – 2019 & Exam December – 2021)

Minimum
&
Max

MPS
MPS

QUESTION – 21

XYZ Ltd., is considering merger with ABC Ltd. XYZ Ltd.'s shares are currently traded at ₹ 20. It has 2,50,000 shares outstanding and its earnings after taxes (EAT) amount to ₹ 5,00,000. ABC Ltd., has 1,25,000 shares outstanding; its current market price is ₹ 10 and its EAT are ₹ 1,25,000. The merger will be effected by means of a stock swap (exchange).

ABC Ltd., has agreed to a plan under which XYZ Ltd., will offer the current market value of ABC Ltd.'s shares:

- (i) What is the pre-merger earnings per share (EPS) and P/E ratios of both the companies?
- (ii) If ABC Ltd.'s P/E ratio is 6.4, what is its current market price? What is the exchange ratio? What will XYZ Ltd.'s post-merger EPS be?
- (iii) What should be the exchange ratio; if XYZ Ltd.'s pre-merger and post-merger EPS are to be the same?

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QUESTION – 22

Following information is provided relating to the acquiring company Mani Ltd. and the target company Ratnam Ltd:

	Mani Ltd.	Ratnam Ltd.
Earnings after tax (₹ lakhs)	2,000	4,000
No. of shares outstanding (lakhs)	200	1,000
P/E ratio (No. of times)	10	5

Required:

- (i) What is the swap ratio based on current market prices?
- (ii) What is the EPS of Mani Ltd. after the acquisition?
- (iii) What is the expected market price per share of Mani Ltd. after the acquisition, assuming its P/E ratio is adversely affected by 10%?
- (iv) Determine the market value of the merged Co.
- (v) Calculate gain/loss for the shareholders of the two independent entities, due to the merger.

(SM, RTP – November – 2019)

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QUESTION – 23

You have been provided the following Financial data of two companies:

	Krishna Ltd.	Rama Ltd.
Earnings after taxes	₹ 7,00,000	₹ 10,00,000
No. of Equity shares(outstanding)	2,00,000	4,00,000
EPS	3.5	2.5
P/E ratio	10 times	14 times
Market price per share	₹ 35	₹ 35

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Company Rama Ltd. is acquiring the company Krishna Ltd., exchanging its shares on a one-to-one basis for company Krishna Ltd. The exchange ratio is based on the market prices of the shares of the two companies.

Required:

- (i) What will be the EPS subsequent to merger?
- (ii) What is the change in EPS for the shareholders of companies Rama Ltd. and Krishna Ltd.?
- (iii) Determine the market value of the post-merger firm. PE ratio is likely to remain the same.

(iv) Ascertain the profits accruing to shareholders of both the companies.

(Study Material & PM)

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QUESTION – 24

M Co. Ltd. is studying the possible acquisition of N Co. Ltd., by way of merger. The following data are available in respect of the companies:

Particulars	M Co. Ltd.	N Co. Ltd.
Earnings after tax (₹)	80,00,000	24,00,000
No. of equity shares	16,00,000	4,00,000
Market value per share (₹)	200	160

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- (i) If the merger goes through by exchange of equity and the exchange ratio is based on the current market price, what is the new earning per share for M Co. Ltd.?
- (ii) N Co. Ltd. wants to be sure that the earnings available to its shareholders will not be diminished by the merger. What should be the exchange ratio in that case?

EPS

(Study Material & PM)

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QUESTION - 10

R Ltd. and S Ltd. are companies that operate in the same industry. The financial statements of both the companies for the current financial year are as follows:

Balance Sheet

Particulars	R. Ltd. (₹)	S. Ltd (₹)
Equity & Liabilities		
Shareholders Fund		
Equity Capital (₹ 10 each)	20,00,000	16,00,000
Retained earnings	4,00,000	
Non-current Liabilities		
16% Long term Debt	10,00,000	6,00,000
Current Liabilities	<u>14,00,000</u>	<u>8,00,000</u>
Total	<u>48,00,000</u>	<u>30,00,000</u>
Assets		
Non-current Assets	20,00,000	10,00,000
Current Assets	<u>28,00,000</u>	<u>20,00,000</u>
Total	<u>48,00,000</u>	<u>30,00,000</u>

① EPS, P/E, ROE, BVPS

	R Ltd	S Ltd
EAT	533000	249600
÷ No. of ES	200000	160000
① EPS	2.665	1.56
MPS	50	20
② P/E = $\frac{MPS}{EPS}$	18.76	12.82
B.V.	2400000	1600000
÷ No. of ES	200000	160000
③ BVPS	₹ 12	₹ 10
④ ROE = $\frac{EPS}{BVPS} \times 100$	22.21%	15.6%

	Particulars	R. Ltd. (₹)	S. Ltd. (₹)
A.	Net Sales	69,00,000	34,00,000
B.	Cost of Goods sold	<u>55,20,000</u>	<u>27,20,000</u>
C.	Gross Profit (A-B)	13,80,000	6,80,00
D.	Operating Expenses	4,00,000	2,00,000
E.	Interest	<u>1,60,000</u>	<u>96,000</u>
F.	Earnings before taxes [C-(D + E)]	8,20,000	3,84,000
G.	Taxes @ 35%	2,87,000	1,34,400
H.	Earnings After Tax (EAT)	5,33,000	2,49,600

Additional Information:

No. of equity shares	2,00,000	1,60,000
Dividend payment Ratio (D/P)	20%	30%
Market price per share	₹ 50	₹ 20

Assume that both companies are in the process of negotiating a merger through exchange of Equity shares:

② Growth Rate

$$g = b \times r$$

	<u>R49</u>	<u>₹49</u>
ROE (r)	22.21%	15.6%
D/P Ratio	20%	30%
$b(1 - D/P Ratio)$	80%	70%
g	= 17.77%	10.92%

You are required to:

- (i) Decompose the share price of both the companies into EPS & P/E components. Also segregate their EPS figures into Return On Equity (ROE) and Book Value/Intrinsic Value per share components.
- (ii) Estimate future EPS growth rates for both the companies.
- (iii) Based on expected operating synergies, R Ltd. estimated that the intrinsic value of S Ltd. Equity share would be ₹ 25 per share on its acquisition. You are required to develop a range of justifiable Equity Share Exchange ratios that can be offered by R Ltd. to the shareholders of S Ltd. Based on your analysis on parts (i) and (ii), would you expect the negotiated terms to be closer to the upper or the lower exchange ratio limits and why?

(Study Material & PM)

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iii) Maximum & Minimum Exchange Ratio

Maximum Exchange Ratio

[R Ltd के नजर में S Ltd के share का price ₹ 25 है जो R Ltd इससे ज्यादा नहीं है]

$$\text{Maximum Exchange Ratio} = \frac{₹ 25}{₹ 50} = 0.5:1$$

Minimum Exchange Ratio

[S Ltd कभी भी EPS से कम नहीं जाएगी]

$$\text{Minimum Exchange Ratio} = \frac{20}{50} = 0.4:1$$

Since EPS, P/E Ratio, ROE Growth Rate of R Ltd is more than S Ltd, hence Negotiated term to be closer to lower Exchange Ratio.

QUESTION – 11

BA Ltd. and DA Ltd. both the companies operate in the same industry. The Financial statements of both the companies for the current financial year are as follows:

Balance Sheet

Particulars	BA Ltd. (₹)	DA Ltd. (₹)
Current Assets	14,00,000	10,00,000
Fixed Assets (Net)	<u>10,00,000</u>	<u>5,00,000</u>
Total (₹)	<u>24,00,000</u>	<u>15,00,000</u>
Equity capital (₹10 each)	10,00,000	8,00,000
Retained earnings	2,00,000	--
14% long-term debt	5,00,000	3,00,00
Current liabilities	<u>7,00,000</u>	<u>4,00,000</u>
Total (₹)	<u>24,00,000</u>	<u>15,00,000</u>

Income Statement

Particulars	BA Ltd. (₹)	DA Ltd. (₹)
Net Sales	34,50,000	17,00,000
Cost of Goods sold	<u>27,60,000</u>	<u>13,60,000</u>
Gross profit	6,90,000	3,40,000

Operating expenses	2,00,000	1,00,000
Interest	70,000	42,000
Earnings before taxes	4,20,000	1,98,00
Taxes @ 50%	<u>2,10,000</u>	<u>99,000</u>
Earnings after taxes (EAT)	<u>2,10,000</u>	<u>99,000</u>
Additional Information :		
No. of Equity shares	1,00,000	80,000
Dividend payment ratio (D/P)	40%	60%
Market price per share	₹ 40	₹15

Assume that both companies are in the process of negotiating a merger through an exchange of equity shares. You have been asked to assist in establishing equitable exchange terms and are required to:

- (i) Decompose the share price of both the companies into EPS and P/E components; and also segregate their EPS figures into Return on Equity (ROE) and book value/intrinsic value per share components.
- (ii) Estimate future EPS growth rates for each company.
- (iii) Based on expected operating synergies BA Ltd. estimates that the intrinsic value of DA's equity

share would be ₹ 20 per share on its acquisition. You are required to develop a range of justifiable equity share exchange ratios that can be offered by BA Ltd. to the shareholders of DA Ltd. Based on your analysis in part (i) and (ii), would you expect the negotiated terms to be closer to the upper, or the lower exchange ratio limits and why?

- (iv) Calculate the post-merger EPS based on an exchange ratio of 0.4:1 being offered by BA Ltd. and indicate the immediate EPS accretion or dilution, if any, that will occur for each group of shareholders. Impact
- (v) Based on a 0.4: 1 exchange ratio and assuming that BA Ltd.'s pre-merger P/E ratio will continue after the merger, estimate the post-merger market price. Also show the resulting accretion or dilution in pre-merger market prices.

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(SM, PM & Exam January – 2021)

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QUESTION – 12

The following are the financial statements of A Ltd., and B Ltd. for the financial year ended 31st March, 2020. Both the companies are working in the same industry.

Balance Sheets (₹)

Particulars	A Ltd.	B Ltd.
Total Current Assets	15,00,000	12,00,000
Total Net Fixed Assets	12,00,000	6,00,000
Total Assets	27,00,000	18,00,000
Equity Capital (Face Value ₹ 10)	10,00,000	8,00,000
Retained Earnings	3,00,000	---
14% Long Term Debt	7,00,000	5,00,000
Total Current Liabilities	7,00,000	5,00,000
Total Liabilities	27,00,000	18,00,000



Income Statement (₹)

Particulars	A Ltd.	B Ltd.
Net Sales	33,10,000	16,60,000
Gross Profit	6,90,000	3,40,000
Operating Expenses	2,00,000	1,00,000
Interest	98,000	70,000
EBT	3,92,000	1,70,000
Tax @ 30%	1,17,600	51,000
PAT	2,74,400	1,19,000
Additional information :		
Dividend Pay-out Ratio	40%	60%
Market Price per Share	40	15

You are required to calculate:

- (i) Earnings Per share (EPS), Profit Earning Ratio (PER), Return on Equity (ROE) and Book Value Per Share (BVPS) for both the firms.
- (ii) Estimate future EPS growth rate for both the firms.
- (iii) If on acquisition of B Ltd. by A Ltd., intrinsic value of B Ltd., will be ₹ 20 per share, develop range of justifiable Exchange Ratio (ER) that can be offered by A Ltd., to shareholders of B Ltd.

(iv) Based on your analysis in (i) and (ii) whether the negotiated ratio will be close to upper or lower range. Justify.

(v) Post-merger EPS on an ER of 0.4: 1. What will be immediate accretion or dilution to EPS to the shareholders of both the firms?

(vi) Post-Merger MPS on the basis of ER of 0.4 : 1

(Exam Jan-2021)

(Page No. 24)

QUESTION - 27

X Ltd. is studying the possible acquisition of Y Ltd. by way of merger. The following data are available in respect of both the companies.

Particulars	X Ltd.	Y Ltd.
Market Capitalization (₹)	75,00,000	90,00,000
Gross Profit Ratio	20%	20%
Inventory Turnover Ratio	5 times	4 times
Debtor Turnover Ratio	3 times	5 times
12% Debenture (₹)	10,00,000	-
10% Debenture (₹)	-	14,40,000
No. of Equity Shares	1,00,000	60,000
Operating Expenses	86%	78%
Corporate Tax Rate	30%	30%
Closing Stock (₹)	15,00,000	5,00,000
Debtors (₹)	10,00,000	8,00,000

You are required to calculate:

- Swap ratio based on EPS & MPS respectively as weightage of 40% and 60%.
- Post Merger EPS
- Post Merger market price assuming same PE Ratio of X Ltd.
- Post Merger gain or loss in EPS.

(MTP: May - 2020) (Page No. 49)

Calculation of Sales

Inventory Turnover Ratio

$$STR = \frac{COGS}{Stock}$$

$$X Ltd : 1500000 \times 5 = ₹ 7500000$$

$$Y Ltd = 500000 \times 4 = ₹ 2000000$$

Sales

$$X Ltd = \frac{7500000}{80\%} = ₹ 9375000$$

$$Y Ltd = \frac{2000000}{80\%} = ₹ 2500000$$

Calculation of EPS

MPS

	X4d	Y4d
Sales (w.N.1)	9375000	2500000
(-) Operating Exp	8062500	1950000
EBIT	1312500	550000
(-) Interest	120000	144000
EBT	1192500	406000
(-) Tax @ 30%	357750	121800
EAT	834750	284200
÷ No. of ES	100000	60000
EPS	₹ 8.34	4.74

$$\begin{aligned}
 \text{X4d} &= \frac{7500000}{100000} \\
 &= ₹ 75 \\
 \text{Y4d} &= \frac{900000}{60000} \\
 &= ₹ 150
 \end{aligned}$$

① Swap Ratio

$$\textcircled{i} \text{ EPS Basis} = \frac{4.74}{8.34} = 0.568:1$$

$$\textcircled{ii} \text{ MPS Basis} = \frac{150}{75} = 2:1$$

$$\text{Swap Ratio} = (0.568 \times 0.40) + (2 \times 0.60) = 1.427:1$$

② Post Merger EPS

$$\begin{aligned} \text{No. of shares to be issued} &= 60000 \text{ shares} \times 1.427 \\ &= 85620 \text{ shares} \end{aligned}$$

$$\text{Post Merger EPS} = \frac{834750 + 284200}{100000 + 85620} = ₹ 6.03$$

③ Post Merger MPS

$$\text{P/E Ratio of X Ltd} = \frac{75}{8.34} = 8.99$$

$$\text{Post Merger MPS} = 6.03 \times 8.99 = ₹ 54.21$$

④ Gain or Loss in EPS

	X Ltd	Y Ltd
pre Merger EPS	8.34	4.74
Post Merger EPS	6.03	8.60 (6.03 × 1.427)
Loss	2.31	3.86 Gain

QUESTION - 13

B Ltd. is a highly successful company and wishes to expand by acquiring other firms. Its expected high growth in earnings and dividends is reflected in its PE ratio of 17. The Board of Directors of B Ltd. has been advised that if it were to take over firms with a lower PE ratio than it own, using a share-for-share exchange, then it could increase its reported earnings per share. C Ltd. has been suggested as a possible target for a takeover, which has a PE ratio of 10 and 1,00,000 shares in issue with a share price of ₹ 15. B Ltd. has 5,00,000 shares in issue with a share price of ₹ 12.

Calculate the change in earnings per share of B Ltd. if it acquires the whole of C Ltd. by issuing shares at its market price of ₹12. Assume the price of B Ltd. shares remains constant.

(SM, PM & RTP November - 2018)

(Page No. 13)

	<u>Btd</u>	<u>Ctd</u>
P/E	17	10
No. of shares	500000	100000
mPS	12	15

	<u>Btd</u>	<u>Ctd</u>
<u>Earnings</u>		
EPS = $\frac{MPS}{P/E}$	0.706	1.5
(x) No.	500000	100000
EAT	353000	150000

No. of shares to be issued

$$\begin{aligned}\text{Consideration to C Ltd} &= 100000 \text{ shares} \times 15 \\ &= ₹ 1500000\end{aligned}$$

$$\text{No. of shares} = \frac{₹ 1500000}{12} = 125000 \text{ shares}$$

$$\text{Post Merger EPS} = \frac{353000 + 150000}{500000 + 125000}$$

$$= 0.805$$

$$\text{change in EPS of B Ltd} = 0.805 - 0.706 = 0.099$$

QUESTION - 16

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 ₹ 80.00 lakhs and P/E multiple is 10.5. He wants to buy another firm which has current income of ₹ 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 ₹ 42 and ₹ 105 respectively?

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

(SM, PM & MTP - 2020)

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	<u>Acquirer</u>	<u>Target Co.</u>
EAT	80 L	15.75
P/E	10.5	10
Market Cap. (EAT × P/E)	840	157.50
MPS	₹ 42	₹ 105
No. of shares (Mk Cap) <hr/> MPS	20 lakh	1.50 lakh
EPS =	4	10.50

① Swap Ratio

Let assume swap ratio be x at which current EPS (₹4) should be maintained after merger

$$\text{Post Merger EPS} = \frac{\text{Combined Earnings}}{\text{No. of shares of Acquirer} + \text{New shares}}$$

$$4 = \frac{80 + 15.75}{20 + 1.50x}$$

$$80 + 6x = 95.75$$

$$x = \frac{95.75 - 80}{6} = 2.625:1$$

Cash Deal

Let Assume Int Amt be x at which after buyout EPS should be ₹4

$$4 = \frac{(80 + 15.75) - x(1 - 0.30)}{20}$$

$$80 = 95.75 - 0.70x$$

$$x = \frac{15.75}{0.7} = 22.50 \text{ lakh}$$

$$\text{Cash payment} = \frac{22.50}{15\%} = ₹150L$$

QUESTION - 26

T Ltd. and E Ltd. are in the same industry. The former is in negotiation for acquisition of the latter. Important information about the two companies as per their latest financial statements is given below:

	T Ltd.	E Ltd.
₹ 10 Equity shares outstanding	12 Lakhs	6 Lakhs
Debt:		
10% Debentures (₹ Lakhs)	580	--
12.5% Institutional Loan (₹ Lakhs)	--	240
Earning before interest, depreciation and tax (EBIDAT) (₹ Lakhs)	400.86	115.71
Market Price/share (₹)	220.00	110.00

T Ltd. plans to offer a price for E Ltd., business as a whole which will be 7 times EBIDAT reduced by outstanding debt, to be discharged by own shares at market price.

E Ltd. is planning to seek one share in T Ltd. for every 2 shares in E Ltd. based on the market price. Tax rate for the two companies may be assumed as 30%.

T. Ltd OFFER

① Net consideration payable

$$\begin{aligned} & (\text{EBIDAT} \times 7) - (\text{Debt}) \\ & (115.71 \times 7) - 240.00 \\ & = 809.97 - 240.00 \\ & = \underline{\underline{₹ 569.97}} \end{aligned}$$

② No. of shares to be issued

$$\text{No. of shares} = \frac{₹ 569.97}{220} = 2.59 \text{ lakhs}$$

③ Post Merger EPS

	<u>T Ltd</u>	<u>E Ltd</u>
EBIDAT	400.86	115.71
(-) Intt	58.00	30.00
EBT	<u>342.86</u>	<u>85.71</u>
(-) Tax @ 30%	102.86	25.71
EAT	<u><u>240</u></u>	<u><u>60</u></u>

Calculate and show the following under both alternatives - T Ltd.'s offer and E Ltd.'s plan:

- (i) Net consideration payable.
- (ii) No. of shares to be issued by T Ltd.
- (iii) EPS of T Ltd. after acquisition.
- (iv) Expected market price per share of T Ltd. after acquisition.
- (v) State briefly the advantages to T Ltd. from the acquisition.

Note: Calculations (except EPS) may be rounded off to 2 decimals in lakhs.

(SM, PM & Exam November - 2018)

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$$\text{Post Merger EPS} = \frac{240 + 60}{12 + 2.59} = ₹ 20.56$$

iv) Post Merger MPS

It is assumed that P/E Ratio of T Ltd remain constant

P/E Ratio T Ltd before Merger

EAT	240
÷ No. of ES	12
EPS	₹ 20
MPS	₹ 220
P/E Ratio	11 times

$$\begin{aligned} \text{Post Merger MPS} &= ₹ 20.56 \times 11 \\ &= ₹ 226.16 \end{aligned}$$

End Plans

① Net Consideration payable

$$[6 \text{ lakh shares} \times \frac{1}{2}] \times ₹ 220$$

Lakhs
= ₹ 660

② No. of shares to be issued

$$(6 \text{ lakh shares} \times \frac{1}{2})$$

= 3 lakh shares

③ Post Merger EPS

$$\text{Post Merger EPS} = \frac{240 + 60}{12 + 3} =$$

₹ 20

④ Post Merger MPS

$$\text{Post Merger MPS} = ₹ 20 \times 11 \text{ times} = ₹ 220$$

Example – 03

A Ltd. want to take over & Ltd.

	A Ltd.	B Ltd.
No. of shares	1,00,000	40,000
Paid up Value	₹ 10	₹ 10
ESC	₹ 10,00,000	₹ 4,00,000
R & S	₹ 2,00,000	₹ 50,000
Net worth	₹ 12,00,000	₹ 4,50,000
BVPS $\left(\frac{\text{Net worth}}{\text{No. of shares}}\right)$	₹ 12	₹ 11.25
EPS	₹ 5	₹ 2
EAT (EPS × No. of shares)	₹ 5,00,000	₹ 80,000
P/E Ratio	10 times	6 times
MPS (EPS × P/E Ratio)	₹ 50	₹ 12
Market Cap. (No. of shares × MPS)	₹ 50,00,000	₹ 4,80,000
Promoter's Holding (%)	30%	50%

Promoter's Holding (No)	30,000 shares	20,000 shares
Free float market cap (%)	70%	50%
Free float market cap (shares)	70,000 shares	20,000 shares
Free float market cap (₹)	35,00,000	2,40,000

- (i) Calculate Swap Ratio.
- (ii) Post merger EPS.
- (iii) Post Merger MPS.
- (iv) Market Capitalization of A Ltd. after merger.
- (v) Book Value per share after merger.
- (vi) Promoter's holding after merger.
- (vii) Free float market capitalization after merger.

QUESTION – 30

The following information relating to the acquiring Company Abhiman Ltd. and the target Company Abhishek Ltd. are available. Both the Companies are promoted by Multinational Company, Trident Ltd. The promoter's holding is 50% and 60% respectively in Abhiman Ltd. and Abhishek Ltd.:

	Abhiman Ltd.	Abhishek Ltd.
Share Capital (₹)	200 lakh	100 lakh
Free Reserve and Surplus (₹)	800 lakh	500 lakh
Paid up Value per share (₹)	100	10
Free float Market Capitalization (₹)	400 lakh	128 lakh
P/E Ratio (times)	10	4

Trident Ltd. is interested to do justice to the shareholders of both the Companies. For the swap ratio weights are assigned to different parameters by the Board of Directors as follows:

Book Value	25%
EPS (Earning per share)	50%
Market Price	25%

- (a) What is the swap ratio based on above weights?
- (b) What is the Book Value, EPS and expected Market price of Abhiman Ltd. after acquisition of Abhishek Ltd. (assuming P.E. ratio of Abhiman Ltd. remains unchanged and all assets and liabilities of Abhishek Ltd. are taken over at book value).
- (c) Calculate:
- (i) Promoter's revised holding in the Abhiman Ltd.
 - (ii) Free float market capitalization.
 - (iii) Also calculate No. of Shares, Earning per Share (EPS) and Book Value (B.V.), if after acquisition of Abhishek Ltd., Abhiman Ltd. decided to :
 - (1) Issue Bonus shares in the ratio of 1 : 2; and
 - (2) Split the stock (share) as ₹ 5 each fully paid.

(Study Material & PM)

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BVPS, EPS, MPS

	Abhiman	Abhishek
ESC R&S Net worth paid up Value per share No. of shares $\left[\frac{ESC}{\text{paid up}}\right]$ BVPS $\left[\frac{NW}{No.}\right]$ promoter's Holding promoter's Holding (shares) Non promoter's Holding FFMC	₹ 200 L ₹ 800 L ₹ 1000 Lacs ₹ 100 2 Lacs ₹ 500 50% 1 Lacs 50% ₹ 400 Lacs	₹ 100 L ₹ 500 L ₹ 600 Lacs ₹ 10 10 Lacs ₹ 60 60% 6 Lacs 40% ₹ 128 Lacs
Total Market Cap $\left(\frac{FFMC}{\text{Non prom. Holding}}\right)$ MPS $\left(\frac{\text{Total Mkt Cap}}{No.}\right)$ P/E Ratio EPS = $\left(\frac{MPS}{P/E}\right)$ EAT = (EPS x No. of shares)	₹ 800 Lacs ₹ 400 10 ₹ 40 ₹ 80 Lacs	₹ 320 Lacs ₹ 32 4 ₹ 8 ₹ 80 Lacs.

a) Swap Ratio

Basis	Swap Ratio	Weights	$\$R \times W$
BVPS	$\frac{60}{500} = 0.12$	0.25	0.03
EPS	$\frac{8}{40} = 0.20$	0.50	0.10
MPS	$\frac{32}{400} = 0.08$	0.25	0.02
		Swap Ratio	0.15

Swap Ratio = 0.15:1

⑥ BVPS, EPS & MPS after Merger

No. of shares to be issued = 10 Lacs shares \times 0.15 = 1.5 Lacs

BVPS

1st Method

$$\text{B.V.P.S} = \frac{\text{Combined Net Worth}}{\text{Total No. of shares after Merger}} = \frac{\text{₹1600}}{2+1.5} = \text{₹457.14}$$

2nd Method ICAI

$$\begin{aligned} \text{ESC } [2 + 1.5] \times \text{₹100} &= 350 \text{ L} \\ \text{Res } (800 + 450) &= 1250 \text{ L} \end{aligned}$$

\div No. of shares
BVPS

$$\begin{array}{r} 1600 \\ 3.5 \\ \hline \text{₹457.14} \end{array}$$

Post Merger EPS

$$\begin{aligned} &= \frac{\text{₹80 Lacs} + 80 \text{ Lacs}}{3.50 \text{ Lacs}} \\ &= \text{₹45.71} \end{aligned}$$

Post Merger MPS

Post Merger MPS

$$\begin{aligned} &= \text{₹45.71} \times 10 \\ &= \text{₹457.10} \end{aligned}$$

(c) (i) Promoter's Revised Holding after Merger

Existing promoter's holding in Abhiman = 1 Lac Shares

New shares issued to promoter's of
Abhishek Ltd (6 Lac shares \times 0.15) = $\frac{0.9 \text{ Lac shares}}{1.90 \text{ Lacs}}$

$$\text{Promoter's Holding (\%)} = \frac{1.90 \text{ Lacs}}{3.50 \text{ Lacs}} \times 100 = 54.29\%$$

(ii) Free float Market Cap after Merger

Non promoter's holding in shares (3.50 - 1.90) = 1.60 Lac shares

$$\text{FFMC} = 1.60 \text{ Lac shares} \times ₹ 457.10 = ₹ 731.36 \text{ Lacs.}$$

(c) (iii) Bonus Issue & Stock Split

No. of shares after Merger = 3.50 Lacs shares

Bonus shares $(3.50 \times \frac{1}{2}) = 1.75$ Lacs shares

No. of shares after Bonus 5.25 Lacs shares

No. of shares after stock split = $5.25 \times 20 = 105$ Lacs shares
of ₹ 5 each

EPS

$$\text{EPS} = \frac{80 \text{ Lacs} + 80 \text{ Lacs}}{105 \text{ Lacs}} = ₹ 1.524$$

BVPS

$$\text{ESC} (105 \text{ Lacs shares} \times 5) = ₹ 525 \text{ Lacs}$$

$$\text{RFS} (1250 \text{ Lacs} - 175 \text{ L}) = ₹ 1075 \text{ Lacs.}$$

$$\begin{array}{r} \text{Net Worth} \\ \div \text{No. of shares} \\ \text{BVPS} \end{array} \quad \begin{array}{r} ₹ 1600 \text{ Lacs.} \\ 105 \text{ Lacs.} \\ ₹ 15.238 \end{array}$$

QUESTION – 31

Abhiman Ltd. is a subsidiary of Janam Ltd. and is acquiring Swabhiman Ltd. which is also a subsidiary of Janam Ltd. The following information is given :

	Abhiman Ltd.	Swabhiman Ltd.
% Shareholding of promoter	50%	60%
Share capital	₹ 200 lacs	100 lacs
Free Reserves and surplus	₹ 900 lacs	600 lacs
Paid up value per share	₹ 100	10
Free float market capitalization	₹ 500 lacs	156 lacs
Free float market capitalization	10	4

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COPY

Janam Ltd., is interested in doing justice to both companies. The following parameters have been assigned by the Board of Janam Ltd., for determining the swap ratio:

Book value	25%
Earnings per share	50%
Market price	25%

You are required to compute

- (i) The swap ratio.
- (ii) The Book Value, Earning Per Share and Expected Market Price of Swabhiman Ltd.,(assuming P/E Ratio of Abhiman remains the same and all assets and liabilities of Swabhiman Ltd. are taken over at book value.)

(Study Material & PM)

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QUESTION – 29

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

Particulars	E Ltd. (₹)	H Ltd. (₹)
Number of shares (Face value ₹ 10 each)	20 Lakhs	15 Lakhs
Market Capitalization	1000 Lakhs	1500 Lakhs
P/E Ratio (times)	10.00	5.00
Reserves and surplus in ₹	600.00 Lakhs	330.00 Lakhs
Promoter's Holding (No. of shares)	9.50 Lakhs	10.00 Lakhs

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The Board of Directors of both the companies have decided to give a fair deal to the shareholders. Accordingly, the weights are decided as 40%, 25% and 35% respectively for earnings (EPS), book value and market price of share of each company for swap ratio.

Calculate the following:

- (i) Market price per share, earnings per share and Book Value per share;
- (ii) Swap ratio;

- (iii) Promoter's holding percentage after acquisition;
- (iv) EPS of E Ltd. after acquisitions of H Ltd;
- (v) Expected market price per share and market capitalization of E Ltd.; after acquisition, assuming P/E ratio of E Ltd. remains unchanged; and
- (vi) Free float market capitalization of the merged firm.

(Study Material & PM)

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QUESTION – 32

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 (F.V. ₹ 10 each)	10.00 lakhs	7.5 lakhs
Market capitalization	500.00 lakhs	750.00 lakhs
P/E ratio (times)	10.00	5.00
Reserves and Surplus	300.00 lakhs	165.00 lakhs
Promoter's Holding (No. of shares)	4.75 lakhs	5.00 lakhs

H.W
HW
COPY

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 40%, 25% and 35% respectively for Earning, Book Value and Market Price of share of each company:

- (i) Calculate the swap ratio and also calculate Promoter's holding % after acquisition.

- (ii) What is the EPS of Efficient Ltd. after acquisition of Healthy Ltd.?
- (iii) What is the expected market price per share and market capitalization of Efficient Ltd. after acquisition, assuming P/E ratio of Firm Efficient Ltd. remains unchanged.
- (iv) Calculate free float market capitalization of the merged firm.

(SM, PM & Exam November – 2020)

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QUESTION - 34

Intel Ltd., promoted by a Trans National Company, is listed on the stock exchange.

The value of the floating stock is ₹ 45 crores. The Market Price per Share (MPS) is ₹ 150.

The capitalization rate is 20 percent.

The promoters holding is to be restricted to 75 per cent as per the norms of listing requirement. The Board of Directors have decided to fall in line to restrict the Promoters' holding to 75 percent by issuing Bonus Shares to minority shareholders while maintaining the same Price Earnings Ratio (P/E).

You are required to calculate:

- (i) Bonus Ratio;
- (ii) MPS after issue of Bonus Shares; and
- (iii) Free float Market capitalization after issue of Bonus Shares

(iv) promoters holding
= 80%

(Exam May - 2018)

(Page No. 64)

(i) Bonus Ratio

$$\begin{aligned} \text{Non promoters holding (shares)} &= \frac{\text{₹ 4500 Lacs}}{\text{₹ 150}} \\ &= 30 \text{ Lacs shares} \end{aligned}$$

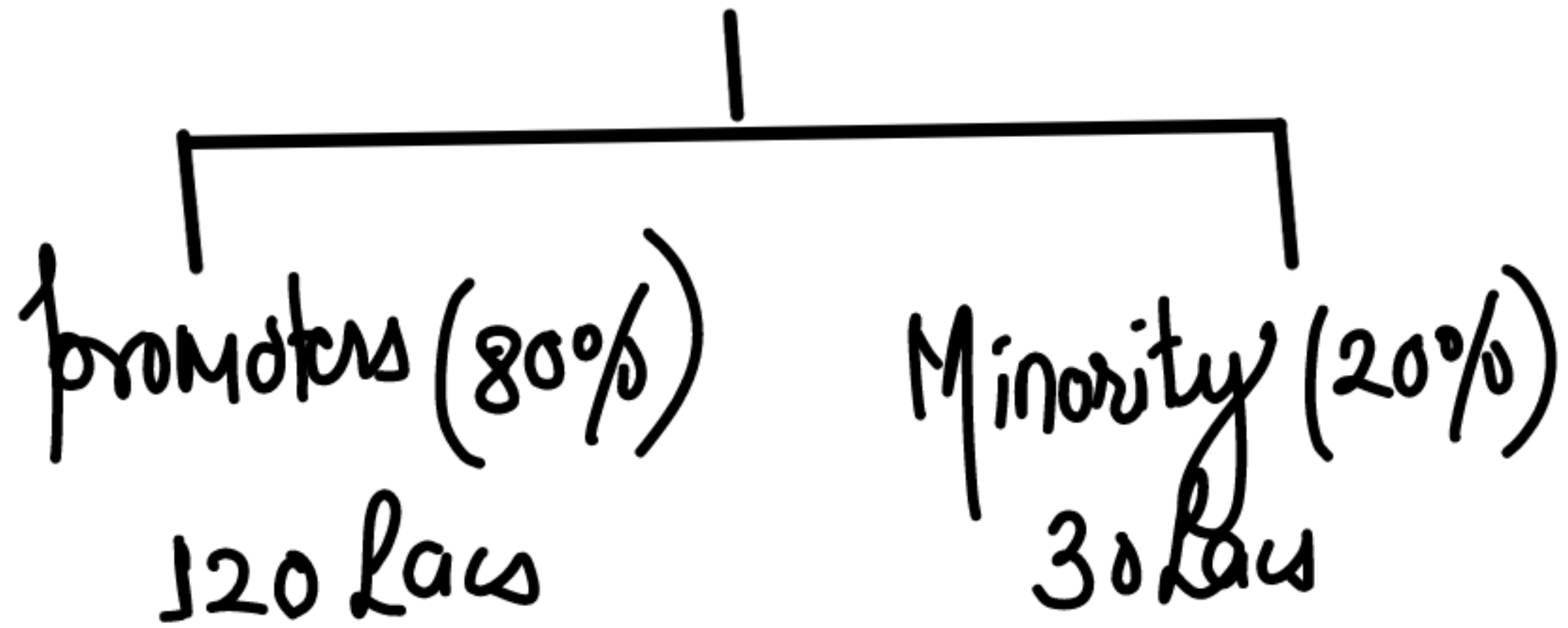
$$\text{Non promoters holding (\%)} = 20\%$$

$$\text{Total No. of shares} = \frac{30 \text{ Lacs}}{20\%} = 150 \text{ Lacs shares}$$

$$\begin{aligned} \text{Promoters Holding (shares)} &= 150 \text{ Lacs shares} \\ &\quad \times 80\% \\ &= 120 \text{ Lacs shares} \end{aligned}$$

Existing

Total Shares : 150 Lac shares



In order to maintain promoter's holding 75%, Total No. of shares in company = $\frac{120 \text{ Lac}}{75\%} = 160 \text{ Lac shares}$

Bonus shares issued by company to Minority shareholders = 10 Lac shares

Hence Bonus Ratio = $\frac{10}{30}$
1 share for every 3 shares

② MPS after Bonus

$$P/E = \frac{1}{k_e} = \frac{1}{0.20} = 5 \text{ times}$$

$$\text{EPS before Bonus} = \frac{\text{₹}150}{5} = \text{₹}30$$

$$\text{Earnings} = \text{₹}30 \times 150 \text{ Lacs} = \text{₹}4500 \text{ Lacs}$$

$$\text{EPS after Bonus} = \frac{\text{₹}4500}{160} = \text{₹}28.125$$

$$\text{MPS} = 28.125 \times 5 = \text{₹}140.625$$

③ FFMV after Bonus

Minority Shareholding
after Bonus = 40, Lacs
Shares

$$\text{FFMV} = 40 \text{ Lacs shares} \\ \times \text{₹}140.625$$

$$= \text{₹}5625 \text{ Lacs} \\ \text{or} \\ 56.25 \text{ Cr.}$$

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QUESTION – 53

Trupti Co. Ltd. promoted by a Multinational group “INTERNATIONAL INC” is listed on stock exchange holding 84% i.e. 63 lakhs shares.

Profit after Tax is ₹ 4.80 crores.

Free Float Market Capitalization is ₹ 19.20 crores.

As per the SEBI guidelines promoters have to restrict their holding to 75% to avoid delisting from the stock exchange. Board of Directors has decided not to delist the share but to comply with the SEBI guidelines by issuing Bonus shares to minority shareholders while maintaining the same P/E ratio.

Calculate

- (i) P/E Ratio
- (ii) Bonus Ratio
- (iii) Market price of share before and after the issue of bonus shares
- (iv) Free Float Market capitalization of the company after the bonus shares.

QUESTION - 33

The equity shares of XYZ Ltd. are currently being traded at ₹ 24 per share in the market. XYZ Ltd. has total 10,00,000 equity shares outstanding in number; and promoters' equity holding in the company is 40%.

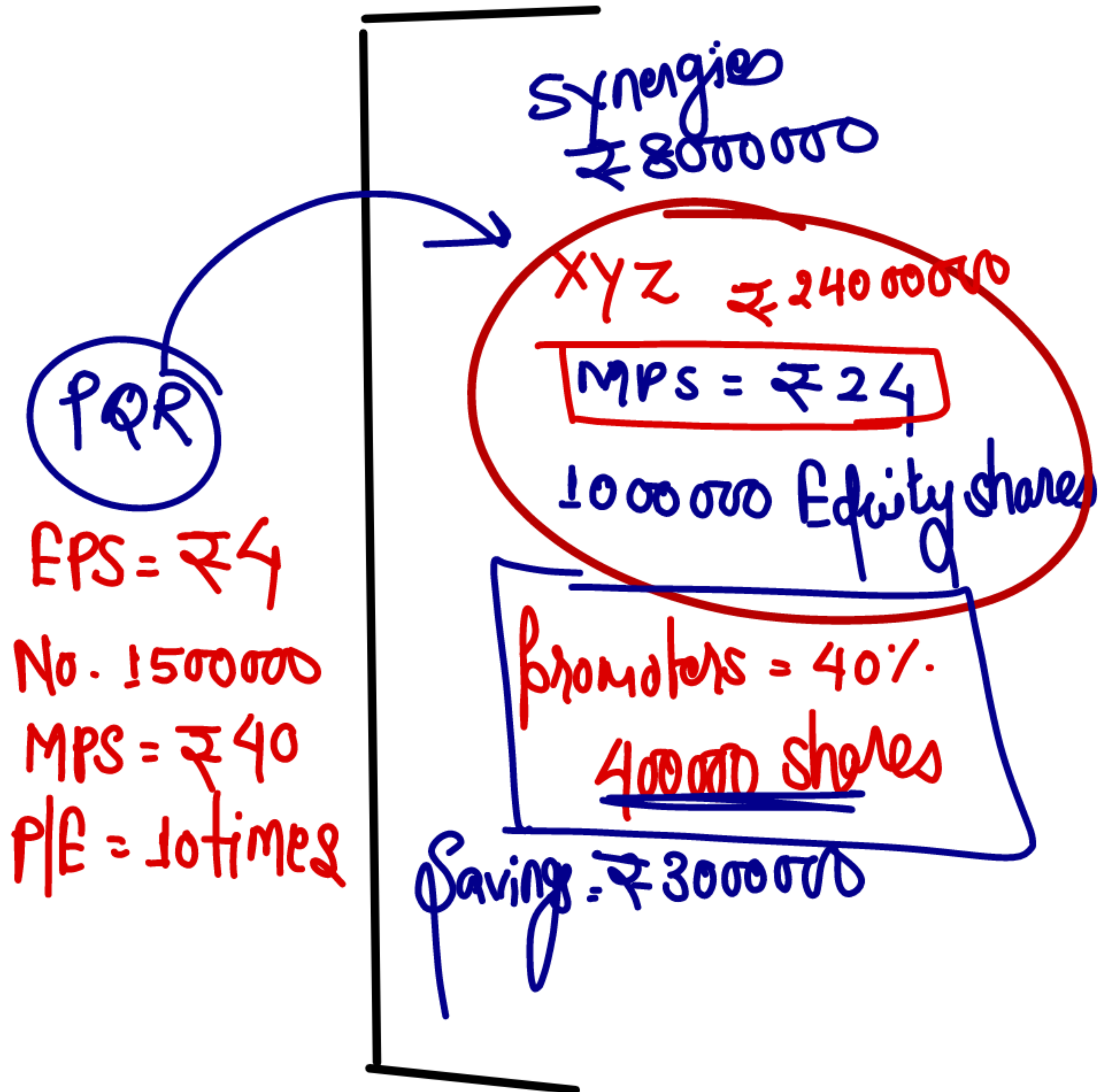
PQR Ltd. wishes to acquire XYZ Ltd. because of likely synergies. The estimated present value of these synergies is ₹ 80,00,000.

Further PQR feels that management of XYZ Ltd. has been over paid. With better motivation, lower salaries and fewer perks for the top management, will lead to savings of ₹ 4,00,000 p.a. Top management with their families are promoters of XYZ Ltd. Present value of these savings would add ` 30,00,000 in value to the acquisition.

Following additional information is available regarding PQR Ltd.:

Earnings per share : ₹ 4

Total number of equity shares outstanding : 15,00,000



Market price of equity share : ₹ 40

Required:

- (i) What is the maximum price per equity share which PQR Ltd. can offer to pay for XYZ Ltd.?
- (ii) What is the minimum price per equity share at which the management of XYZ Ltd. will be willing to offer their controlling interest?

(Study Material & PM)

(Page No. 63)

(i) Maximum price per share offer by PQR

$$\begin{aligned} \text{Maximum price} &= \frac{(100000 \times 24) + 800000 + 300000}{100000} \\ &= ₹ 35 \end{aligned}$$

(ii) Minimum price per share

$$\begin{aligned} \text{Minimum price} &= \frac{(400000 \times 24) + ₹ 300000}{400000} \\ &= ₹ 31.50 \end{aligned}$$

QUESTION – 35

Bank 'R' was established in 2005 and doing banking in India. The bank is facing DO OR DIE situation. There are problems of Gross NPA (Non Performing Assets) at 40% & ~~CAR/CRAR~~ (Capital ~~Adequacy Ratio~~/ Capital Risk Weight Asset Ratio) at 4%. The net worth of the bank is not good. Shares are not traded regularly. Last week, it was traded @ ₹ 8 per share. RBI Audit suggested that bank has either to liquidate or to merge with other bank.

Bank 'P' is professionally managed bank with low gross NPA of 5%. It has Net NPA as 0% and CAR at 16%. Its share is quoted in the market @ ₹ 128 per share. The board of directors of bank 'P' has submitted a proposal to RBI for take over of bank 'R' on the basis of share exchange ratio.

The Balance Sheet details of both the banks are as follows:

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	Bank 'R' Amt. in ₹ lacs	Bank 'P' Amt. In ₹ lacs
Paid up share capital (F.V. ₹ 10 each)	140	500
Reserves & Surplus	70	5,500
Deposits	4,000	40,000
Other liabilities	<u>890</u>	<u>2,500</u>
Total Liabilities	<u>5,100</u>	<u>48,500</u>
Cash in hand & with RBI	400	2,500
Balance with other banks	-	2,000
Investments	1,100	15,000
Advances	3,500	27,000
Other Assets	<u>100</u>	<u>2,000</u>
Total Assets	<u>5,100</u>	<u>48,500</u>

It was decided to issue shares at Book Value of Bank 'P' to the shareholders of Bank 'R'. All assets and liabilities are to be taken over at Book Value.

For the swap ratio, weights assigned to different parameters are as follows:

Gross NPA	30%
CAR	20%
Market price	40%
Book value	10%

- (a) What is the swap ratio based on above weights?
- (b) How many shares are to be issued?
- (c) Prepare Balance Sheet after merger.
- (d) Calculate CAR & Gross NPA % of Bank 'P' after merger.

(Practice Manual)

(Page No. 66)

QUESTION - 36

During the audit of the Weak Bank (W), RBI has suggested that the Bank should either merge with another bank or may close down. Strong Bank (S) has submitted a proposal of merger of Weak Bank with itself. The relevant information and Balance Sheets of both the companies are as under:

Particulars	Weak Bank (W)	Strong Bank (S)	Assigned Weights (%)
Gross NPA (%)	40	5	30
Capital Adequacy Ratio (CAR)	5	16	28
Total Capital/ Risk Weight Asset			
Market price per Share (MPS)	12	96	32
Book value			10
Trading on Stock Exchange	Irregular	Frequent	

BVPS

	<u>Weak</u>	<u>Strong</u>
ESC	150	500
R&S	80	5500
(-) preliminary Exp	50	—
Net Worth	180	6000
÷ No. of shares	15	50
BVPS	₹ 12	₹ 120

1. Swap Ratio

* जहाँ भी Loss है, Swap Ratio Calculation = $\frac{P.CO}{V.CO}$ (अनुपात)

Basis	Swap Ratio	Weight	Swap Ratio x Wt
1 Gross NPA	$\frac{5}{40} = 0.125^*$	0.30	0.0375
2 CAR	$\frac{5}{16} = 0.3125$	0.28	0.0875
3 MPs	$\frac{12}{96} = 0.125$	0.32	0.0400
4 BVPS	$\frac{12}{120} = 0.10$	0.10	0.0100
Swap Ratio			0.175:1

(B) No. of shares to be issued = 15 Lacs x 0.175 = 2.625 Lakh shares

Balance Sheet

(₹ in Lakhs)

Particulars	Weak Bank (W)	Strong Bank (S)
Paid up Share Capital (₹ 10 per share)	150	500
Reserves & Surplus	80	5,500
Deposits	4,000	44,000
Other Liabilities	890	2,500
Total Liabilities	5,120	52,000
Cash in Hand & with RBI	400	2,500
Balance with Other Banks	-	2,000
Investments	1,100	19,000
Advances	3,500	27,000
Other Assets	70	2,000
Preliminary Expenses	50	-
Total Assets	5,120	52,500

You are required to

- (a) Calculate Swap ratio based on the above weights;
- (b) Ascertain the number of Shares to be issued to Weak Bank;
- (c) Prepare Balance Sheet after merger; and

(C) Balance Sheet

Liab.	Amt	Asset	Amt.
ESC (50+2.625) x 10	526.25	Cash	2900
R&S	5500	Bank	2000
CLR	153.75	Investment	20100
Deposits	48000	Advances	30500
other liab.	3390	other Assets	2070
	57570		57570

W.N.L Purchase Method

In Merger of Two Banks, we always calculate Goodwill or Capital Reserve

Net Assets = 180 Lacs

Payment $\left[\frac{2.625 \text{ L}}{\text{Share}} \times 10 \right] = ₹ 26.25 \text{ Lacs}$

Capital Reserve = ₹ 153.75 Lacs

(d) Calculate CAR and Gross NPA of Strong Bank after merger.

(Study Material, PM & Exam May – 2018)

(Page No. 69)

Gross NPA (₹)

	Weak	Strong	Merged
Advances	3500	27000	₹ 30500
Gross NPA (%)	40%	5%	
Gross NPA (₹)	1400	1350	₹ 2750 Less.

4 CAR & Gross NPA after Merger

CAR

	Weak	Strong	Merged
Capital	180	6000	6180
CAR	5%	16%	15.04%
RWA $\left[\text{CAR} = \frac{\text{Capital}}{\text{RWA}} \right]$	3600	37500	41100

$$\text{CAR} = \frac{6180}{41100} \times 100 = 15.04\%$$

Maximum Exchange Ratio & Minimum Exchange Ratio

[Conn & Nielson Model]

- Maximum Exchange Ratio is calculated from the point of view of P. Co.
- Minimum Exchange Ratio is calculated from the point of view of V. Co.

Example - 02

A Ltd. wants to take over of B Ltd.

	A Ltd.	B Ltd.
No. of Share (10)	1,00,000	40,000
EPS	₹15	₹9
MPS	₹90	₹27
P/E	6	3
EAT	₹ 15,00,000	3,60,000

(i) Maximum exchange ratio acceptable by A Ltd.

(ii) Minimum exchange ratio acceptable by shareholders of B Ltd.

(Page No. 02)

• Maximum Exchange Ratio

[A Ltd maximum इतना देगा कि मर्जर के बाद share price गिरना नही चाहिए]

$$\left(\frac{\text{Combined Earning}}{\text{Shares of P. Co} + \text{New shares}} \right) \times P/E = \text{MPS}$$

$$\left(\frac{1500000 + 360000}{100000 + 40000x} \right) \times 5 = ₹90$$

$$\frac{930000}{100000 + 40000x} = 90$$

$$930000 = 900000 + 360000x$$

$$x = \frac{930000 - 900000}{360000} = 0.0833:1$$

Minimum Exchange Ratio

[कम से कम B को इतना मिलना चाहिए कि Merger के बाद price कम नही होना चाहिए]

$$\left(\frac{\text{Combined Earnings}}{\text{Shares of P.co} + \text{New shares}} \right) \times \text{P/E Ratio} \times \text{Share Exchange Ratio} = \text{MPS}$$

$$\left(\frac{1500000 + 360000}{100000 + 40000x} \right) \times 5 \times x = 27$$

$$930000x = 2700000 + 1080000x$$

$$822000x = 2700000$$

$$x = \frac{2700000}{822000} = 0.3285:1$$

QUESTION – 02

ABC Ltd. is intending to acquire XYZ Ltd. by way of merger and the following information is available in respect of these companies:

	ABC Ltd.	XYZ Ltd.
Total Earnings (E) (in lakh)	₹ 1,200	₹400
Number of outstanding shares (S) (in lakh)	400	200
Price earnings ratio (P/E)	8	7

- (a) Determine the maximum exchange ratio acceptable to the shareholders of ABC Ltd., if the P/E ratio of the combined firm is expected to be 8?
- (b) Determine the minimum exchange ratio acceptable to the shareholders XYZ Ltd., if the P/E ratio of the combined firm is expected to be 10?

Note: Make calculation in lakh multiples and compute ratio upto 4 decimal points.

(RTP May – 2021)

(Page No. 05)

EAT
÷ No.
EPS
(X) P/E Ratio
MPS

<u>ABC</u>	<u>XYZ</u>
1200 L	400 L
400	200
₹ 3	₹ 2
8	7
₹ 24	₹ 14

(b) Minimum Exchange Ratio

Let assume minimum Exchange ratio be x at which post merger Equivalent mps should be 14

$$\left(\frac{1200 + 400}{400 + 200x} \right) \times 10 \times x = 14$$

$$16000x = 5600 + 2800x$$

$$13200x = 5600$$

$$x = \frac{5600}{13200} = 0.4242:1$$

(a) Maximum Exchange Ratio

Let assume Maximum Exchange Ratio be x at which post merger mps be ₹ 24

$$\left(\frac{1200 + 400}{400 + 200x} \right) \times 8 = 24$$

$$12800 = 9600 + 4800x$$

$$x = \frac{12800 - 9600}{4800} = 0.6667:1$$

QUESTION – 07

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)	₹ 96	₹ 30
Number of outstanding shares (S) (in millions)	20	14
Earnings per share (EPS) (₹)	4.8	2.143
Price earnings ratio (P/E)	8	7
Market Price per share (P) (₹)	38.4	15

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C.W
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- (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?

(Exam November – 2018)

(Page No. 14)

QUESTION – 20

XYZ Ltd. wants to purchase ABC Ltd. by exchanging 0.7 of its share for each share of ABC Ltd. Relevant financial data are as follows:

Equity shares outstanding	10,00,000	4,00,000
EPS (₹)	40	28
Market price per share (₹)	250	160

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C.W
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MPS

(i) Illustrate the impact of merger on EPS of both the companies.

(ii) The management of ABC Ltd. has quoted a share exchange ratio of 1:1 for the merger. Assuming that P/E ratio of XYZ Ltd. will remain unchanged after the merger, what will be the gain from merger for ABC Ltd.?

(iii) What will be the gain/loss to shareholders of XYZ Ltd.?

(iv) Determine the maximum exchange ratio acceptable to shareholders of XYZ Ltd.

(SM, Exam November – 2019 & Exam December – 2021)

QUESTION – 25

Longitude Limited is in the process of acquiring Latitude Limited on a share exchange basis. Following relevant data are available:

		Longitude Limited	Latitude Limited
✓ Profit after Tax (PAT)	₹ in Lakhs	120	80
✓ Number of Shares	Lakhs	15	16
✓ Earning per Share (EPS)	₹	8	5
✓ Price Earnings Ratio (P/E Ratio)		15	10
(Ignore Synergy)		120	50

You are required to determine:

- (i) Pre-merger Market Value per Share, and
- (ii) The maximum exchange ratio Longitude Limited can offer without the dilution of
- (1) EPS and
 - (2) Market Value per Share Calculate Ratio/s up to four decimal points and amounts and number of shares up to two decimal points.

(Study Material & PM)

(Page No. 45)

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C-W
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0.625
0.4167 : 1

QUESTION – 06

C Ltd. and P Ltd. both companies operating in the same industry decided to merge and form a new entity S Ltd. The relevant financial details of the two companies prior to merger announcement are as follows:

	C Ltd.	P Ltd.
Annual Earnings after Tax (₹ lakh)	10,000	5,800
No. Shares Outstanding (lakh)	4,000	1,000
PE Ratio (No. of Times)	8	10

The merger will be affected by means of stock swap (exchange) of 3 shares of C Ltd. for 1 share of P Ltd.

After the merger it is expected that due to synergy effects, Annual Earnings (Post Tax) are expected to be 8% higher than sum of the earnings of the two companies individually. Further, it is expected that P/E Ratio of S Ltd. shall be average of P/E Ratios of two companies before the merger.

Evaluate the extent to which shareholders of P Ltd. will be benefitted per share from the proposed merger.

	<u>C Ltd</u>	<u>P Ltd</u>
EAT	10000 L	5800 L
÷ No.	4000	1000
EPS	2.50	5.80
(X) P/E Ratio	8	10
m.p.s	₹ 20	₹ 58

$$\text{No. of Shares to be issued} = 1000 \text{ shares} \times 3/1 \\ = 3000 \text{ shares}$$

$$\bullet \text{ Post Merger EPS} = \frac{(10000 + 5800)(1.08)}{4000 + 3000} = 2.438$$

$$\bullet \text{ Post Merger MPE} = 2.438 \times 9 = ₹ 21.94$$

$$\text{Avg P/E Ratio} = \frac{8 + 10}{2} = 9$$

Gain or Loss to the Shareholders of P Ltd

MPE before merger	₹ 58
MPE after merger (21.94 × 3)	₹ 65.82
Gain =	<u>₹ 7.82</u>

MPS 20
 MPS $\frac{24}{4}$

Total = 4×1000000
 = ₹ 4000000

QUESTION - 09

Reliable Industries Ltd. (RIL) is considering a takeover of Sunflower Industries Ltd. (SIL) The particulars of 2 companies are given below:

Particulars	Reliable Industries Ltd	Sunflower Industries Ltd.
Earnings After Tax (EAT)	₹ 20,00,000	₹ 10,00,000
Equity shares O/s	10,00,000	10,00,000
Earnings per share (EPS)	2	1
PE Ratio (Times)	10	5

Handwritten notes: 0.25, 250000, ₹ 20, ₹ 5, and an arrow pointing from the PE Ratio of RIL (10) to ₹ 20.

Required:

- (i) What is the market value of each Company before merger?
- (ii) Assume that the management of RIL estimates that the shareholders of SIL will accept an offer of one share of RIL for four shares of SIL. If there are no synergic effects, what is the market value of the Post-merger RIL? What is the new price per share? Are the shareholders of RIL better or worse off than they were before the merger?

(iii) Due to synergic effects, the management of RIL estimates that the earnings will increase by 20%. What are the new post-merger EPS and Price per share? Will the shareholders be better off or worse off than before the merger?

(Study Material & PM)

(Page No. 16)

$$\frac{3600000}{125000} = 2.88 \times 10$$
$$= 28.80$$
$$\frac{20.00}{} = 8.80$$

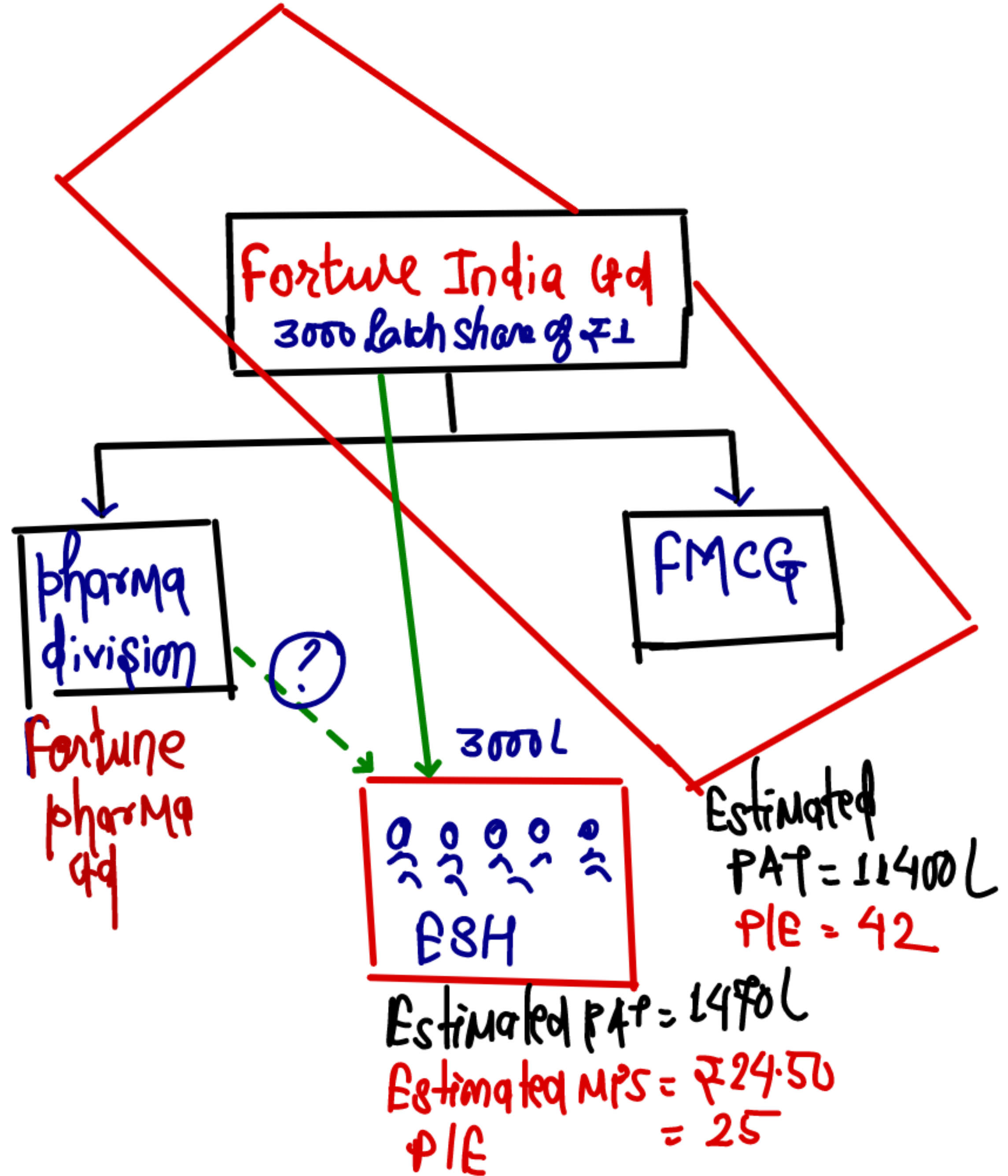
PART II Demerger

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QUESTION – 37

The following information is relating to Fortune India Ltd. having two division, viz. Pharma Division and Fast Moving Consumer Goods Division (FMCG Division). Paid up share capital of Fortune India Ltd. is consisting of 3,000 Lakhs equity shares of Re. 1 each. Fortune India Ltd. decided to de-merge Pharma Division as Fortune Pharma Ltd. w.e.f. 1.4.2009. Details of Fortune India Ltd. as on 31.3.2009 and of Fortune Pharma Ltd. as on 1.4.2009 are given below:

Particulars	Fortune Pharma Ltd. (₹)	Fortune India Ltd. (₹)
Outside Liabilities		
Secured Loans	400 lakh	3,000 lakh
Unsecured Loans	2,400 lakh	800 lakh
Current Liabilities & Provisions	1,300 lakh	21,200 lakh
Assets		
Fixed Assets	7,740 lakh	20,400 lakh
Investments	7,600 lakh	12,300 lakh
Current Assets	8,800 lakh	30,200 lakh
Loans & Advances	900 lakh	7,300 lakh
Deferred tax/Misc. Expenses	60 lakh	(200) lakh



Board of Directors of the Company have decided to issue necessary equity shares of Fortune Pharma Ltd. of Re. 1 each, without any consideration to the shareholders of Fortune India Ltd. For that purpose following points are to be considered:

- (a) Transfer of Liabilities & Assets at Book value.
- (b) Estimated Profit for the year 2009-10 is ₹ 11,400 Lakh for Fortune India Ltd. & ₹ 1,470 lakhs for Fortune Pharma Ltd.
- (c) Estimated Market Price of Fortune Pharma Ltd. is ₹ 24.50 per share.
- (d) Average P/E Ratio of FMCG sector is 42 & Pharma sector is 25, which is to be expected for both the companies.

Calculate:

1. The Ratio in which shares of Fortune Pharma are to be issued to the shareholders of Fortune India Ltd.
2. Expected Market price of Fortune India (FMCG) Ltd.
3. Book Value per share of both the Companies immediately after Demerger.

(Study Material & PM)

(Page No. 72)

① Ratio of shares issued by fortune pharma Ltd

$$\text{Estimated PAT} = ₹ 1470 \text{ Lacs}$$

$$\text{Estimated MPS} = ₹ 24.50$$

$$\text{Estimated P/E} = 25$$

$$\text{Estimated EPS} = \frac{24.50}{25} = ₹ 0.98$$

No. of shares in fortune pharma Ltd

$$= \frac{1470 \text{ Lacs}}{0.98} = 1500 \text{ Lakh shares}$$

$$\text{Ratio} = \frac{1500}{3000} = 0.5 : 1$$

2 Estimated MPS of fortune India Ltd

$$\begin{aligned}\text{Estimated PAT} &= ₹ 11400 \text{ Lacs} \\ \div \text{No. of shares} &= 3000 \text{ Lacs} \\ \text{EPS} &= ₹ 3.80 \\ (\times) \text{P/E Ratio} &= 42 \\ \text{MPS} &= ₹ 159.60\end{aligned}$$

(iii) BVPS after Demerger

	FMCG + Pharma	Pharma	FMCG
Assets	70000	25100	44900
(-) Outside Liab.	25000	4100	20900
	45000	21000	24000
÷ No. of Equity shares		1500	3000
BVPS		₹ 14	₹ 8

QUESTION - 40

Mr. X, a financial analyst, intends to value the business of PQR Ltd in terms of the future cash generating capacity. He has projected the following after tax cash flows :

Year :	1	2	3	4	5
Cash flows (₹ in lakh)	1,760	1,480	1,640	1,860	1,170

It is further estimated that beyond 5th year, cash flows will perpetuate at a constant growth rate of 8% per annum, mainly on account of inflation. The perpetual cash flow is estimated to be ₹ 10,260 lakh at the end of the 5th year.

Required:

- (i) What is the value of the firm in terms of expected future cash flows, if the cost of capital of the firm is 20%.
- (ii) The firm has outstanding debts of ₹ 3,620 lakh and cash/bank balance of ₹ 2,710 lakh. Calculate the shareholder value per share if the number of outstanding shares is 151.50 lakh.

2-241.29

$$T.V_5 = \frac{10260(1.08)}{0.20 - 0.08}$$
$$= \frac{40175.30}{-3620}$$
$$= \frac{36555.30}{151.50}$$

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VF

(iii) The firm has received a takeover bid from XYZ
ltd. of ₹ 225 per share. Is it a good offer?

[Given: PVIF at 20% for year 1 to Year 5: 0.833,
0.694, 0.579, 0.482, 0.402]

✓

(Exam November – 2019)

(Page No. 79)

QUESTION - 42

Yes Ltd. wants to acquire No Ltd. and the cash flows of Yes Ltd. and the merged entity are given below:

Year	1	2	3	4	5
Yes Ltd.	175	200	320	340	350
Merged Entity	400	450	525	590	620

Earnings would have witnessed 5% constant growth rate without merger and 6% with merger on account of economies of operations after 5 years in each case. The cost of capital is 15%.

The number of shares outstanding in both the companies before the merger is the same and the companies agree to an exchange ratio of 0.5 shares of Yes Ltd. for each share of No Ltd.

PV factor at 15% for years 1-5 are 0.870, 0.756; 0.658, 0.572, 0.497 respectively.

You are required to:

- Compute the Value of Yes Ltd. before and after merger.
- Value of Acquisition and
- Gain to shareholders of Yes Ltd.

(Study Material & PM) (Page No. 82)

(i) Value of Yes Ltd

Before Merger

$$\begin{aligned} \text{PVCI} &= (175 \times 0.870) + (200 \times 0.756) \\ &+ (320 \times 0.658) + (340 \times 0.572) \\ &+ (350 \times 0.497) = ₹ 882.44 \end{aligned}$$

$$\text{P.V. of F.V.} = \left(\frac{350 (1.05)}{0.15 - 0.05} \right) \times 0.497 = 1826.47$$

$$\text{Value} = 882.44 + 1826.47 = ₹ 2708.91$$

After MERGER

$$\text{PVCI} = 1679.27 \text{ Lacs.}$$

$$\text{P.V. of FV} = \left[\frac{620 (1.06)}{0.15 - 0.06} \right] \times 0.497 = ₹ 3629.20 \text{ L}$$

$$\text{Value} = 1679.27 + 3629.20 = ₹ 5308.47 \text{ L}$$

(ii) Value of Acquisition

$$\begin{aligned}\text{Value of Acquisition} &= ₹ 5308.47 \text{ Lacs} - 2708.91 \text{ Lacs} \\ &= ₹ 2599.56 \text{ Lacs}\end{aligned}$$

(iii) Gain to shareholders of YES Ltd.

$$\begin{aligned}\text{Value of YES Ltd after Merger} &\left[\frac{5308.47}{1 + 0.50} \times 1 \right] = ₹ 3538.98 \text{ L} \\ &= ₹ 2708.91 \text{ L} \\ \text{Value of YES Ltd before merger} & \quad \text{Gain} = \underline{\underline{₹ 830.07 \text{ Lacs.}}}\end{aligned}$$

QUESTION - 44

H Ltd. agrees to buy over the business of B Ltd. effective 1st April, 2012. The summarized Balance Sheets of H Ltd. and B Ltd. as on 31st March 2012 are as follows:

Balance sheet as at 31st March, 2012
(In Crores of Rupees)

<u>Liabilities:</u>	H. Ltd	B. Ltd.
Paid up Share Capital		
-Equity Shares of ₹100 each	350.00	
-Equity Shares of ₹10 each		6.50
Reserve & Surplus	950.00	25.00
Total	1,300.00	31.50
<u>Assets:</u>		
Net Fixed Assets	220.00	0.50
Net Current Assets	1,020.00	29.00
Deferred Tax Assets	60.00	2.00
Total	1,300.00	31.50

H Ltd. proposes to buy out B Ltd. and the following information is provided to you as part of the scheme of buying:

- (a) The weighted average post tax maintainable profits of H Ltd. and B Ltd. for the last 4 years are ₹ 300 crores and ₹ 10 crores respectively.

1. Net Asset Value

	H	B
Assets	1300	31.50
(-) Contingent	300	-
Net Assets	1000	31.50
÷ No.	3.5	0.65
Value	285.71	48.46

2. Earning Capitalization Method

	H	B
FMP	300	10
Capitalization Rate	8%	8%
V _E	3750	125
÷ N	3.5	0.65
Value	1071.43	192.31

- (b) Both the companies envisage a capitalization rate of 8%.
- (c) H Ltd. has a contingent liability of ₹ 300 crores as on 31st March, 2012.
- (d) H Ltd. to issue shares of ₹ 100 each to the shareholders of B Ltd. in terms of the exchange ratio as arrived on a Fair Value basis. (Please consider weights of 1 and 3 for the value of shares arrived on Net Asset basis and Earnings capitalization method respectively for both H Ltd. and B Ltd.)

You are required to arrive at the value of the shares of both H Ltd. and

B Ltd. under:

- (i) Net Asset Value Method
- (ii) Earnings Capitalization Method
- (iii) Exchange ratio of shares of H Ltd. to be issued to the shareholders of B Ltd. on a Fair value basis (taking into consideration the assumption mentioned in point 4 above.)

(Study Material & PM)

(Page No. 86)

Fair Value

H Ltd

$$\text{Fair Value} = \frac{(285.71 \times 1) + (1071.43 \times 3)}{4}$$

$$= ₹ 875$$

B Ltd

$$\text{Fair Value} = \frac{(48.46 \times 1) + (192.31 \times 3)}{4}$$

$$= 156.35$$

$$\text{Exchange Ratio} = \frac{156.35}{875}$$

$$= 0.1787:1$$

QUESTION - 46

AB Ltd., is planning to acquire and absorb the running business of XY Ltd. The valuation is to be based on the recommendation of merchant bankers and the consideration is to be discharged in the form of equity shares to be issued by AB Ltd. As on 31.3.2006, the paid up capital of AB Ltd. consists of 80 lakhs shares of ₹10 each. The highest and the lowest market quotation during the last 6 months were ₹570 and ₹430. For the purpose of the exchange, the price per share is to be reckoned as the average of the highest and lowest market price during the last 6 months ended on 31.3.06.

XY Ltd.'s Balance Sheet as at 31.3.2006 is summarized below:

	₹ lakhs
Sources	
Share Capital	
20 lakhs equity shares of ₹10 each fully paid	200
10 lakhs equity shares of ₹10 each, ₹5 paid	50
Loans	<u>100</u>
Total	<u>350</u>
Uses	
Fixed Assets (Net)	150
Net Current Assets	<u>200</u>
	<u>350</u>

① Value of Business

Discounted CA Techniques

$$V_B = (105 \times 0.93) + (120 \times 0.86) + (125 \times 0.79) + (120 \times 0.74) + (100 \times 0.68) + (200 \times 0.68) = ₹592.40 \text{ Lakhs}$$

Net Assets

$$V_B = 350 - 100 = 250 \text{ Lakhs}$$

$$\text{Hence } V_B = \frac{₹592.40 + 250}{2} = ₹421.20 \text{ Lakhs}$$

An independent firm of merchant bankers engaged for the negotiation, have produced the following estimates of cash flows from the business of XY Ltd.:

Year ended	By way of	₹ lakhs
31.3.07	after tax earnings for equity	105
31.3.08	do	120
31.3.09	Do	125
31.3.10	Do	120
31.3.11	Do	100
	Terminal Value estimate	200

It is the recommendation of the merchant banker that the business of XY Ltd. may be valued on the basis of the average of (i) Aggregate of discounted cash flows at 8% and (ii) Net assets value. Present value factors at 8% for years

1-5: 0.93 0.86 0.79 0.74 0.68

You are required to:

- Calculate the total value of the business of XY Ltd.
- The number of shares to be issued by AB Ltd.; and
- The basis of allocation of the shares among the shareholders of XY Ltd.

(Study Material)

(Page No. 90)

(b) No. of Shares to be issued

$$\text{Avg price of share} = \frac{₹570 + ₹430}{2}$$

$$= ₹500$$

$$\text{No. of shares} = \frac{₹42,20,000}{500}$$

$$= 84,240 \text{ shares}$$

(c) Allocation of shares

$$\text{fully paid shareholders} \left(84,240 \times \frac{20}{25}\right) = 67,392$$

$$\text{party paid up} \left(84,240 \times \frac{5}{25}\right) = 16,848$$

True Cost of Acquisition

Eg

	<u>A Co</u>	<u>B Co</u>
No.	100000	40000
EPS	₹ 80	₹ 20
P/E	10	6
M.V.	₹ 8000000	₹ 800000

Cash deal

A Co paid ₹ 30 per share to B Co

[B Co को जो Gain है (NPV) को A Co के लिए True Cost of Acquisition कहेंगे]

Cash paid $(40000 \times 30) = 1200000$

(-) Value of B Co $= 800000$

Cost of Acquisition = 400000

Stock deal Swap Ratio = 0.5:1

$$\text{Post merger EPS} = \frac{800000 + 133333}{120000} = ₹7.78$$

$$\text{Post merger MPS} = 7.78 \times 10 = ₹77.80$$

$$\begin{array}{r} \text{Value of Bid after Merger} \\ (20000 \times 77.80) \end{array} \quad \begin{array}{r} 1556000 \\ 800000 \\ \hline \end{array}$$

Value before merger

$$\text{True cost of Acquisition for Aed} = \frac{756000}{\hline}$$

QUESTION - 49

Elrond Limited plans to acquire Doom Limited. The relevant financial details of the two firms prior to the merger announcement are:

	Elrond Limited	Doom Limited
Market price per share	₹ 50	₹ 25
Number of outstanding shares	20 lakhs	10 Lakhs

The merger is expected to generate gains, which have a present value of ₹ 200 lakhs. The exchange ratio agreed to is 0.5.

What is the true cost of the merger from the point of view of Elrond Limited?

(Study Materials & PM)

(Page No. 94)

Market Value of firm after merger

$$\begin{aligned}V_f &= (20 \times 50) + (10 \times 25) + 200 \\ &= ₹ 1450\end{aligned}$$

$$\begin{aligned}\text{Value of Doom Ltd} \\ \text{after Merger} &= \left(\frac{1450}{25} \times 5\right) = 290 \text{ Lakh} \\ \text{pre merger market value} &= 250 \text{ Lakh} \\ \hline \text{True Cost of Acquisition} &= \underline{40 \text{ Lakh}}\end{aligned}$$

QUESTION - 45

AFC Ltd. wishes to acquire BCD Ltd. The shares issued by the two companies are 10,00,000 and 5,00,000 respectively:

(i) Calculate the increase in the total value of BCD Ltd. resulting from the acquisition on the basis of the following conditions:

Current expected growth rate of BCD Ltd. 7%

Expected growth rate under control of AFC Ltd., (without any additional capital investment and without any change in risk of operations) 8%

Current Market price per share of AFC Ltd. ₹ 100

Current Market price per share of BCD Ltd. ₹ 20

Expected Dividend per share of BCD Ltd. ₹ 0.60

(ii) On the basis of aforesaid conditions calculate the gain or loss to shareholders of both the companies, if AFC Ltd. were to offer one of its shares for every four shares of BCD Ltd.

	AFC	BCD ✓
NO.	1000000	500000

MPS	₹ 100	₹ 20
-----	-------	------

7% g

₹ 0.60 D₁

(i) Increase in Total Value of BCD ✓

$$K_e = \frac{D_1}{P_0} + g = \frac{₹ 0.60}{20} + 0.07 = 0.10 \text{ or } 10\%$$

$$P_0 = \frac{0.60}{0.10 - 0.08} = ₹ 30$$

$$\text{Value of synergy} = (30 - 20) \times 500000 = ₹ 5000000$$

(ii) Gain or Loss due to Merger

No. of shares to be issued = $(500000 \times \frac{1}{4}) = 125000$ shares

MPS after Merger

Value of AFC Ltd before merger = ₹ 1000 lacs
(1000000×100)

Value of BCD before merger = ₹ 100 lacs
($500000 \times ₹ 20$)

Value of synergy

VB after Merger = ₹ 1150 lacs.

∴ No. of shares after Merger = 11.25 lacs
MPS after Merger = ₹ 102.22

Gain or Loss

	AFC	BCD
MPS before merger	₹ 100	₹ 20
MPS after merger	₹ 102.22	25.55 (102.22×0.25)
Gain	2.22	5.55

(iii) Calculate the gain to the shareholders of both the Companies, if AFC Ltd. pays ₹ 22 for each share of BCD Ltd., assuming the P/E Ratio of AFC Ltd. does not change after the merger. EPS of AFC Ltd. is ₹ 8 and that of BCD is ₹ 2.50. It is assumed that AFC Ltd. invests its cash to earn 10%.

(Study Material & PM)

(Page No. 87)

Pre merger P/E Ratio

$$P/E = \frac{₹ 100}{8} = 12.5$$

(iii) Gain/Loss

EAT of BCD (500000 × 2.50)	₹ 1250000
(-) opp. cost (500000 × 22) × 10%	₹ 1100000
EAT	<u>₹ 150000</u>

$$EAT (AFC) (1000000 \times 8) = ₹ 8000000$$

$$\text{Post Merger EPS} = \frac{8000000 + 150000}{1000000} = ₹ 8.15$$

$$\text{Post Merger mps} = 8.15 \times 12.5 = 101.875$$

$$\text{Gain to AFC } [101.875 - 100] = ₹ 1.875$$

$$\text{Gain to BCD } [₹ 22 - ₹ 20] = ₹ 2$$

QUESTION - 01

Long Ltd., is planning to acquire Tall Ltd., with the following data available for both the companies:

	Long Ltd.	Tall Ltd.
Expected EPS	₹ 12	₹ 5
Expected DPS	₹ 10	₹ 3
No. of Shares	30,00,000	18,00,000
Current Market Price of Share	₹ 180	₹ 50

As per an estimate Tall Ltd., is expected to have steady growth of earnings and dividends to the tune of 6% per annum. However, under the new management the growth rate is likely to be enhanced to 8% per annum without additional investment.

You are required to:

- Calculate the net cost of acquisition by Long Ltd., if ₹ 60 is paid for each share of Tall Ltd.
- If the agreed exchange ratio is one share of Long Ltd., for every three shares of Tall Ltd., in lieu of the cash acquisition as per (i) above, what will be the net cost of acquisition?
- Calculate Gain from acquisition.

(Exam July - 2021) (Page No. 02)

① Net Cost of Acquisition

$$\begin{array}{r} \text{Cash paid} \\ [1800000 \times 60] \\ \text{₹ 108000000} \\ \text{(-) Market Value} \\ \text{of Tall Ltd.} \\ (1800000 \times 50) \\ \text{₹ 90000000} \\ \hline \text{Net Cost of Acquisition} = \text{₹ 18000000} \end{array}$$

(ii) Net Cost of Acquisition (Stock deal) No. = $1800000 \times \frac{1}{3} = 600000$

Value of synergy

$$K_e = \frac{3}{50} + 0.06 = 0.12$$

$$P_0 = \frac{3}{0.12 - 0.08} = ₹ 75$$

$$\begin{aligned} \text{Value of synergy} &= (75 - 50) \times 1800000 \\ &= ₹ 45000000 \end{aligned}$$

Post merger mps

$$V_A (30L \times 180) = ₹ 5400 L$$

$$V_B (18L \times 50) = ₹ 900 L$$

$$V_S = ₹ 450 L \checkmark$$

Market Value

$$\underline{6750}$$

$$\text{Value of Tall after Merger } 1125$$

$$\left(\frac{6750}{36} \times 6 \right)$$

$$\text{Value of Tall before merger } 900$$

$$\text{Cost of Acquisition} = \underline{225} \text{ Lac}$$

QUESTION - 51

P Ltd. is considering take-over of R Ltd. by the exchange of four new shares in P Ltd. for every five shares in R Ltd. The relevant financial details of the two companies prior to merger announcement are as follows:

	P Ltd	R Ltd
Profit before Tax (₹ Crore)	15	13.50
No. of Shares (Crore)	25	15
P/E Ratio	12	9

Corporate Tax Rate 30%

You are required to determine:

- Market value of both the company.
- Value of original shareholders.
- Price per share after merger.
- Effect on share price of both the company if the Directors of P Ltd. expect their own pre-merger P/E ratio to be applied to the combined earnings.

(Study Material & PM) (Page No. 97)

① Market Value of Company

	<u>P Ltd</u>	<u>R Ltd</u>
PBT	15	13.50
PAT (70%)	10.5	9.45
÷ No.	25	15
EPS	0.42	0.63
(X) P/E	12	9
EPS	₹ 5.04	5.67
M.V.	126 cr.	85.05 cr.
M.V. =	$(126 + 85.05) = 211.05$	

(ii) Value of Original Shareholders

$$\text{No. of shares to be issued} = 1500 \times \frac{4}{5} = 1200$$

$$\text{Value of Pfd} = \left(\frac{₹ 211.0500}{25 + 12} \right) \times 25 = ₹ 142.6000$$

$$\text{Value of Rfd} = \left(\frac{211.05}{37} \right) \times 12 = ₹ 68.4500$$

(iii) Post Merger MPS

$$\text{Post Merger EPS} = \frac{10.50 + 9.45}{37} = 0.5392$$

$$\text{Post Merger MPS} = 0.5392 \times 12 = ₹ 6.47$$

(iv) Impact on MPS

	P4d	R4d
MPS before Merger	5.04	5.67
MPS after Merger	6.47	5.18 $(6.47 \times \frac{4}{5})$
Gain	1.43	0.49 loss

QUESTION – 52

M/s. Vasavi Ltd. is considering the takeover of M/s. SKPD Ltd. by the exchange of five new shares in M/s. Vasavi Ltd. for every eight shares in M/s. SKPD Ltd. The relevant financial details of the two companies prior to merger announcement are as follows:

Particulars	M/s. Vasavi Ltd.	M/s. SKPD Ltd.
Profit before tax (₹ crore)	18	20.8
No. of shares (in crore)	20	18
P/E ratio	11	8

Corporate tax rate 30%.

You are required to determine:

- Market value of both the companies
- Value of original share holders
- Price per share after merger
- Effect on share price of both the companies. If the directors of Vasavi Ltd. expect their own pre-merger P/E ratio to be applied to the combined earnings.

(Exam May-2022)

(Page No. 99)

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QUESTION – 39

ICL is proposing to take over SVL with an objective to diversify. ICL's profit after tax (PAT) has grown @ 18 per cent per annum and SVL's PAT is grown @ 15 per cent per annum. Both the companies pay dividend regularly. The summarized Profit & Loss Account of both the companies are as follows:

₹ in Crores

Particulars	ICL	SVL
Net Sales	4,545	1,500
PBIT	2,980	720
Interest	750	25
Provisions for Tax	1,440	445
PAT	790	250
Dividends	235	125

	ICL		SVL	
Fixed Assets				
Land & Building (Net)	720		190	
Plant & Machinery (Net)	900		350	
Furniture & Fixtures (Net)	30	1,650	10	550
Current Assets		775		580
Less: Current Liabilities				
Creditors	230		130	
Overdrafts	35		10	

Provision for Tax	145		50	
Provision for dividends	60	470	50	240
Net Assets		1,955		890
Paid up share capital (₹ 10 per share)	250		125	
Reserve and Surplus	1,050	1,300	660	785
Borrowing		655		105
Capital Employed		1,955		890

Market price share (₹)	52	75
------------------------	----	----

ICL's Land & Buildings are stated at current prices. SVL's Land & Buildings are revalued three years ago. There has been an increase of 30 per cent per year in the value of Land & Buildings.

SVL is expected to grow @ 18 per cent each year, after merger.

ICL's Management wants to determine the premium on the shares over the current market price which can be paid on the acquisition of SVL.

You are required to determine the premium using:

- (i) Net Worth adjusted for the current value of Land & Buildings plus the estimated average profit after tax (PAT) for the next five years.

① Value per share

$$\begin{aligned}
 &\text{Net Worth} = 785 \\
 &(+)\text{ Revaluation in L\&B} \\
 &\quad [190(1.30)^3 - 190] \\
 &\quad [190 \times 2.197 - 190] \quad \underline{227.43} \\
 &\quad \text{Net Worth} \quad \text{₹ } 1012.43 \text{ Cr.} \\
 &(+)\text{ } \left(\frac{250 \times 7.7537}{5} \right) \quad \text{₹ } 387.685 \\
 &\quad \text{Value of SVL} \quad \underline{\text{₹ } 1400.115 \text{ Cr.}} \\
 &\quad \div \text{ No. of shares} \quad 12.50 \text{ Cr.} \\
 &\quad \text{Value per share} \quad \text{₹ } 112 \\
 &\text{premium} = \frac{112 - 75}{75} \times 100 = 49.33\%
 \end{aligned}$$

(ii) The dividend growth formula.

(iii) ICL will push forward which method during the course of negotiations?

Period (t)	1	2	3	4	5
FVIF (30%, t)	1.300	1.690	2.197	2.856	3.713
FVIF (15%, t)	1.15	2.4725	3.9938	5.7424	7.7537

(Exam November - 2020)

(Page No. 76)

③ ICL will push forward dividend growth model, due to lower premium.

(ii) Dividend Growth Model

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

$$D_0 = \frac{125}{12.5} = ₹ 10$$

$$K_e = \frac{10(1.15)}{75} + 0.15$$

$$= 0.3033 \text{ or } 30.33\%$$

$$P_0 = \frac{10(1.18)}{0.3033 - 0.18} = ₹ 95.70$$

$$\text{premium} = \frac{95.70 - 75}{75} \times 100 = 27.6\%$$

QUESTION - 48

M/s. Roly Ltd. wants to acquire M/s. Poly Ltd. The following is the Balance Sheet of Poly Ltd. as on 31st March, 2020:

Liabilities	₹	Assets	₹
Equity Capital (₹ 10 per share)	10,00,000	Cash	20,000
Retained Earnings	3,00,000	Debtors	50,000
12% Debentures	3,00,000	Inventories	2,00,000
Creditors and other liability	3,20,000	Plant & Machinery	16,50,000
Total	19,20,000	Total	19,20,000

Shareholders of Poly Ltd. will get one share of Roly Ltd. at current Market price of ₹ 20 for every two shares. External liabilities are expected to be settled at a discount of ₹ 20,000. Sundry debtors and Inventories are expected to realize ₹ 2,00,000.

Poly Ltd. will run as an independent unit. Cash Flow After Tax is expected to be ₹ 4,00,000 per annum for next 6 years. Assume the disposal value of the plant after 6 years will be ₹ 1,50,000.

Poly Ltd. requires a return of 14%

purchase Consideration

$$\text{Shares} [100000 \times \frac{1}{2}] \times 20 = ₹ 1000000$$

$$\text{External liabilities} = ₹ 300000 \\ (320000 - 20000)$$

$$\text{Debentures} = ₹ 300000$$

$$\text{(-) Realisation from Debtors \& Stock} = 200000$$

$$\text{(-) Cash} = 20000$$

$$\text{PC} = \underline{\underline{₹ 1380000}}$$

n	1	2	3	4	5	6
PVIF (14%, n)	0.877	0.769	0.675	0.592	0.519	0.456

Advise the Board of Directors on the financial feasibility of the Proposal.

(Exam Jan-2021)

(Page No. 92)

$$\begin{aligned}
 PVC\text{I} &= (400000 \times 3.888) \\
 &+ (150000 \times 0.456) \\
 &= ₹ 1623600
 \end{aligned}$$

$$\begin{aligned}
 NPV &= ₹ 1623600 - ₹ 1380000 \\
 &= ₹ 243600
 \end{aligned}$$

Since NPV is positive, hence proposal should be accepted.

QUESTION – 47

M/s Tiger Ltd. wants to acquire M/s. Leopard Ltd. The balance sheet of Leopard Ltd. as on 31st March, 2012 is as follows:

Liabilities	₹	Assets	₹
Equity Capital (70,000 shares)	7,00,000	Cash	50,000
Retained earnings	3,00,000	Debtors	70,000
12% Debentures	3,00,000	Inventories	2,00,000
Creditors and other liabilities	3,20,000	Plants & Eqpt.	13,00,000
	16,20,000		16,20,000

Additional Information:

- (i) Shareholders of Leopard Ltd. will get one share in Tiger Ltd. for every two shares. External liabilities are expected to be settled at ₹ 5,00,000. Shares of Tiger Ltd. would be issued at its current price of ₹ 15 per share. Debenture holders will get 13% convertible debentures in the purchasing company for the same amount. Debtors and inventories are expected to realize ₹ 2,00,000.

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(ii) Tiger Ltd. has decided to operate the business of Leopard Ltd. as a separate division. The division is likely to give cash flows (after tax) to the extent of ₹ 5,00,000 per year for 6 years. Tiger Ltd. has planned that, after 6 years, this division would be demerged and disposed of for ₹ 2,00,000.

(iii) The company's cost of capital is 16%.

Make a report to the Board of the company advising them about the financial feasibility of this acquisition.

Net present values for 16% for ₹ 1 are as follows:

Years	1	2	3	4	5	6
PV	0.862	0.743	0.641	0.552	0.476	0.410

(Study Material & PM)

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QUESTION – 56

R Ltd. and S Ltd. operating in same industry are not experiencing any rapid growth but providing a steady stream of earnings. R Ltd.'s management is interested in acquisition of S. Ltd. due to its excess plant capacity. Share of S Ltd. is trading in market at ₹ 3.20 each. Other data relating to S Ltd. is as follows:

Balance Sheet of S Ltd

Liabilities	Amount (₹)	Assets	Amount (₹)
Current Liabilities	1,59,80,000	Current Assets	2,48,75,000
Long Term Liabilities	1,28,00,000	Other Assets	94,00,000
Reserve & Surplus	2,79,95,000	Property Plants & Equipment	3,45,00,000
Share Capital (80 Lakhs shares of ₹ 1.5 each)	1,20,00,000		
Total	6,87,75,000	Total	6,87,75,000

Particulars	R Ltd. (₹)	S Ltd. (₹)	Combined Entity (₹)
Profit after Tax	86,50,000	49,72,000	1,21,85,000
Residual Net Cash Flows per year	91,10,000	54,87,000	1,85,00,000
Required return on equity	13.75%	13.05%	12.5%

You are required to compute the following:

- (i) Minimum price per share S Ltd. should accept from R Ltd.
- (ii) Maximum price per share R Ltd. shall be willing to offer to S Ltd.
- (iii) Floor Value of per share of S Ltd., whether it shall play any role in decision for its acquisition by R Ltd.

(Exam May – 2019)

(Page No. 105)

① Minimum price per share

Current MPS = ₹3.20 [Floor Value]

$$BVPS = \frac{27995000 + 12000000}{8000000} = ₹5$$

On the Basis of CF

$$\frac{₹5487000}{13.05\%} = ₹41981637$$

$$\div \text{No. of share} =$$

$$= ₹5.25$$

Minimum price is ₹5 per share

(ii) Maximum price

$$\text{Value of Rtd before Merger} = \frac{9010000}{13.75\%} = ₹ 65527273$$

$$\text{Value of Rtd after Merger} = \frac{18500000}{12.5\%} = ₹ 148000000$$

$$\begin{aligned} \text{Maximum price} &= \frac{148000000 - 65527273}{8000000} \\ &= ₹ 10.31 \end{aligned}$$

QUESTION - 41

Simple Ltd. and Dimple Ltd. are planning to merge.) The total value of the companies are dependent on the fluctuating business conditions. The following information is given for the total value (debt + equity) structure of each of the two companies.

Business Condition	Probability	Simple Ltd. ₹ Lacs	Dimple Ltd. ₹ Lacs
High Growth	0.20	820	1050
Medium Growth	0.60	550	825
Slow Growth	0.20	410	590

The current debt of Dimple Ltd. is ₹ 65 lacs and of Simple Ltd. is ₹ 460 lacs.

Calculate the expected value of debt and equity separately for the merged entity.

(Study Material & PM)

(Page No. 80)

Simple

	V_F	V_D	V_E
High	820	460	360
Medium	550	460	90
Slow	410	410	0

$$\text{Expected } V_D = (460 \times 0.2) + (460 \times 0.6) + (410 \times 0.2) = 450$$

$$\text{Expected } V_E = (360 \times 0.2) + (90 \times 0.6) = 126$$

Dimple

	V_f	V_D	V_E
H	1050	65	985
M	825	65	760
S	590	65	525

$$\text{Expected } V_D = (65 \times 0.2) + (65 \times 0.6) + (65 \times 0.2) = 65$$

$$\text{Expected } V_E = (985 \times 0.2) + (760 \times 0.6) + (525 \times 0.2) = 758$$

Merged firm

Expected V_E

$$\text{Simple} = 126$$

$$\text{Dimple} = 758$$

$$884$$

Expected V_D

$$\text{Simple} = 450$$

$$\text{Dimple} = 65$$

$$515$$

QUESTION – 28

Snake Ltd. is taking over Lizard Ltd, both are listed companies. The PE Ratio of Lizard Ltd. has been low as 4 and high as 7 and is currently 5. Lizard Ltd.'s previous year EPS was ₹ 3.40 and current expected EPS this year to be ₹ 4.00.

Determine the different range of values of shares using P/E Model.

(MTP: Nov – 2021)

(Page No. 52)

QUESTION - 28

ABC Company is considering acquisition of XYZ Ltd. which has 1.5 crores shares outstanding and issued. The market price per share is ₹ 400 at present. ABC's average cost of capital is 12%. Available information from XYZ indicates its expected cash accruals for the next 3 years as follows:

Year	₹ Crore
1	250
2	300
3	400

Calculate the range of valuation that ABC has to consider. (PV factors at 12% for years 1 to 3 respectively: 0.893, 0.797 and 0.712).

(SM, PM & MTP April - 2021)

(Page No. 42)

; Valuation of XYZ Ltd

on the basis of MPS

$$V_B = 1.5 \text{ cr.} \times ₹ 400 = 600 \text{ cr.}$$

on the basis of Cash flows

$$\begin{aligned} V_B &= (250 \times 0.893) + \\ & (300 \times 0.797) + (400 \times 0.712) \\ &= ₹ 747.15 \text{ cr.} \end{aligned}$$

	V_B	per share
Minimum	600 cr.	₹ 400
Maximum	747.15 cr.	₹ 498.10

QUESTION – 33

The following is the Balance-sheet of Grape Fruit Company Ltd as at March 31st, 2019.

Liabilities	(₹ in lakhs)	Assets	(₹ in lakhs)
Equity shares of ₹ 100 each	600	Land and Building	200
14% preference shares of ₹ 100/- each	200	Plant and Machinery	300
13% Debentures	200	Furniture and Fixtures	50
Debenture interest accrued and payable	26	Inventory	150
Loan from bank	74	Sundry debtors	70
Trade creditors	340	Cash at bank	130
		Preliminary expenses	10
		Cost of issue of debentures	5
		Profit and Loss account	525
	1440		1440

The Company did not perform well and has suffered sizable losses during the last few years. However, it is felt that the company could be nursed back to health by proper financial restructuring. Consequently the following scheme of reconstruction has been drawn up:

- (i) Equity shares are to be reduced to ₹ 25/- per share, fully paid up;
- (ii) Preference shares are to be reduced (with coupon rate of 10%) to equal number of shares of ₹ 50 each, fully paid up.
- (iii) Debenture holders have agreed to forgo the accrued interest due to them. In the future, the rate of interest on debentures is to be reduced to 9 percent.
- (iv) Trade creditors will forego 25 percent of the amount due to them.

(v) The company issues 6 lakh of equity shares at ₹ 25 each and the entire sum was to be paid on application. The entire amount was fully subscribed by promoters.

(vi) Land and Building was to be devalued at ₹ 450 lakhs, Plant and Machinery was to be written down by ₹ 120 lakhs and a provision of ₹ 15 lakhs had to be made for bad and doubtful debts.

Required:

(a) Show the impact of financial restructuring on the company's activities.

(b) Prepare the fresh balance sheet after the reconstructions is completed on the basis of the above proposals.

(Practice Manual)

(Page No. 55)

Impact of financial restructuring

Reduction in Liabilities

$$\text{ESC} \left[\frac{600}{100} \times 75 \right] = ₹ 450$$

$$\text{PSC} \left(\frac{200}{100} \times 50 \right) = ₹ 100$$

$$\text{Accrued Intt} = ₹ 26$$

$$\text{Creditors} (340 \times 25\%) = ₹ 85$$

$$\text{Revaluation of L\&B} = ₹ 250$$

$$(450 - 200)$$

A

$$₹ 911$$

Utilized

P&M

$$₹ 120$$

P&D

$$₹ 15$$

preliminary Exp

$$₹ 10$$

Cost of issue of deb

$$₹ 5$$

P&C (Dr)

$$₹ 5$$

Capital Reserve

$$₹ 52$$

B

$$675$$

$$₹ 236$$

Balance Sheet

FSC (600 - 450) + 150	300	L&B	450
PSC	100	P&M (300 - 120)	180
Debtors	200	furniture	50
Loan from Bank	74	Inventory	150
Capital Reserve	236	Debtors (70 - 15)	55
Creditors	255	Cash (130 + 150)	280
	<u>1165</u>		<u>1165</u>

QUESTION - 30

The Nishan Ltd. has 35,000 shares of equity stock outstanding with a book value of Rs.20 per share. It owes debt ₹ 15,00,000 at an interest rate of 12%. Selected financial results are as follows.

Income and Cash Flow		Capital	
EBIT	₹ 80,000	Debt	₹ 15,00,000
Interest	1,80,000	Equity	7,00,000
EBT	(₹ 1,00,000)		₹ 22,00,000
Tax	0		
EAT	(₹ 1,00,000)		
Depreciation	₹ 50,000		
Principal Repayment	(₹ 75,000)		
Cash Flow	(₹ 1,25,000)		

Restructure the financial line items shown assuming a composition in which creditors agree to convert two thirds of their debt into equity at book value. Assume Nishan will pay tax at a rate of 15% on income after the restructuring, and that principal repayments are reduced proportionately with debt. Who will control the company and by how big a margin after the restructuring?

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Debt Convert into Equity

$$\text{Debt} = 1500000 \times \frac{2}{3} = ₹ 1000000$$

$$\text{New No. of shares} = \frac{₹ 1000000}{20} = 50000 \text{ shares}$$

financial Impact

EBIT	80,000	Debt	500,000
(-) Int (50000 x 12%)	60,000		
EBT	20,000	Equity	1700,000
(-) Tax @ 15%	3,000		
EAT	17,000	(700,000 + 1000,000)	
(+) Dep	50,000		
(-) Repayment (75000 x 50000 / 150000)	25,000		
Cash flows	42,000		

Controlling Interest

$$\text{Original ESC} = \frac{35000}{85000} \times 100 = 41.18\%$$

$$\text{Debt holders} = \frac{50000}{85000} \times 100 = 58.82\%$$

Creditors will control the company

QUESTION - 40

ABC, a large business house is planning to sell its wholly owned subsidiary KLM. Another large business entity XYZ has expressed its interest in making a bid for KLM. XYZ expects that after acquisition the annual earning of KLM will increase by 10%.

Following information, ignoring any potential synergistic benefits arising out of possible acquisitions, are available:

- (i) Profit after tax for KLM for the financial year which has just ended is estimated to be ₹ 10 crore.
- (ii) KLM's after tax profit has an increasing trend of 7% each year and the same is expected to continue.
- (iii) Estimated post tax market return is 10% and risk free rate is 4%. These rates are expected to continue.

ABC	KLM
	PAT = 10 Cr.

Steel
10% ↑
XYZ
7% ↑
 $R_m = 10\%$
 $R_f = 4\%$
Tax = 30%

(iv) Corporate tax rate is 30%.

	XYZ	ABC	Proxy entity for KLM in the same line of business
No. of shares	100 lakhs	80 lakhs	--
Current share price	₹ 287	₹ 375	--
Dividend pay out	40%	50%	50%
Debt : Equity at market values	1 : 2	1 : 3	1 : 4
P/E ratio	10	13	12
Equity beta	1	1.1	1.1

Assume gearing level of KLM to be the same as for ABC and a debt beta of zero. You are required to calculate:

- Appropriate cost of equity for KLM based on the data available for the proxy entity.
- A range of values for KLM both before and after any potential synergistic benefits to XYZ of the acquisition.

(Practice Manual) (Page No. 67)

(a) Cost of Equity of KLM

CAPM

$$R_f = 4\% \quad \text{KLM}$$

$$R_m = 10\% \quad \text{BE}$$

Asset Beta (BA) of Two similar Company shall be same
Hence we have to calculate Asset Beta of proxy

BA of proxy

$$B_A = \left(B_E \times \frac{E}{E + D(1-t)} \right)$$

$$B_A = \left[1.1 \times \frac{4}{4 + 1(1-0.30)} \right]$$

$$B_A = 1.1 \times \frac{4}{4.7} = 0.9362$$

Now we calculate B_E of KLM

$$0.9362 = B_E \times \frac{3}{3 + 1(1-0.3)}$$

$$0.9362 = 0.8108 B_E$$

$$B_E = \frac{0.9362}{0.8108} = 1.1546$$

$$K_e = R_f + (R_m - R_f) B_E$$

$$= 4 + (10 - 4) 1.1546$$

$$= 10.93\%$$

Value of KLM

Before synergic benefit

Using P/E Ratio

$$PAT = 10 \text{ cr.}$$

Using XYZ P/E

$$V_B = 10 \text{ cr.} \times 10 = \boxed{₹100 \text{ cr.}}$$

Using proxy

$$V_B = 10 \text{ cr.} \times 12 = ₹132 \text{ cr.}$$

Using dividend Growth Model

Using XYZ D/P Ratio

$$V_B = \frac{(10 \times 1.07) \times 40\%}{0.1093 - 0.07} = ₹108.91 \text{ cr.}$$

Using proxy

$$V_B = \frac{(10 \times 1.07) \times 50\%}{0.1093 - 0.07} = \boxed{₹136.13 \text{ cr.}}$$

After Synergistic Benefit

$$PAT = ₹ 10cr + (10 \times 10\%) = 11cr.$$

Using P/E Ratio

XYZ P/E

$$11cr \times 10 = \boxed{₹ 110cr.}$$

proxy

$$11cr \times 12 = ₹ 132cr.$$

Using dividend Growth

XYZ

$$V_B = \frac{(11 \times 1.07) \times 40\%}{0.1093 - 0.07} = ₹ 119.80cr.$$

~~proxy~~

$$V_B = \frac{(11 \times 1.07) \times 50\%}{0.1093 - 0.07} = \boxed{149.75cr.}$$

Value of KCM

	Minimum	Maximum
pre-synergistic	100 cr.	136.13 cr.
post-synergistic	110 cr.	149.75 cr.

Q38/75

Question - 33

Personal Computer Division of Distress Ltd., a computer hardware manufacturing company has started facing financial difficulties for the last 2 to 3 years. The management of the division headed by Mr. Smith is interested in a buyout on 1 April 2013. However, to make this buy-out successful there is an urgent need to attract substantial funds from venture capitalists.

Ven Cap, a European venture capitalist firm has shown its interest to finance the proposed buy-out. Distress Ltd. is interested to sell the division for ₹ 180 crore and Mr. Smith is of opinion that an additional amount of ₹ 85 crore shall be required to make this division viable. The expected financing pattern shall be as follows:

Source	Mode	Amount (₹ Crore)
Management	Equity Shares of ₹ 10 each	60.00
VenCap VC	Equity Shares of ₹ 10 each	22.50
	9% Debentures with attached warrant of ₹ 100 each	22.50
	8% Loan	160.00
Total		265.00

The warrants can be exercised any time after 4 years from now for 10 equity shares @ ₹ 120 per share.

The loan is repayable in one go at the end of 8th year. The debentures are repayable in equal annual installment consisting of both principal and interest amount over a period of 6 years.

Mr. Smith is of view that the proposed dividend shall not be kept more than 12.5% of distributable profit for the first 4 years. The forecasted EBIT after the proposed buyout is as follows:

Year	2013-14	2014-15	2015-16	2016-17
EBIT (₹ Crore)	48 ✓	57 ✓	68 ✓	82 ✓

Applicable tax rate is 35% and it is expected that it shall remain unchanged at least for 5-6 years. In order to attract VenCap, Mr. Smith stated that book value of equity shall increase by 20% during above 4 years. Although, VenCap has shown their interest in investment but are doubtful about the projections of growth in the value as per projections of Mr. Smith. Further VenCap also demanded that warrants should be convertible in 18 shares instead of 10 as proposed by Mr. Smith.

You are required to determine whether or not the book value of equity is expected to grow by 20% per year. Further if you have been appointed by Mr. Smith as advisor then whether you would suggest to accept the demand of VenCap of 18 shares instead of 10 or not.

(Practice Manual)

W.N. 1 Calculation of Interest on Debentures

Debentures = ₹ 22.50 Cr.

Rate of Int = 9% P.A Repayable = 6 YEARS

Equal Annual Installment = $\frac{\text{Loan}}{(\text{PVAf}, 9\%, 6)}$

$$= \frac{22.50}{4.486} = 5.0156 \text{ Cr.}$$

22.50 Cr.

YEAR	Installment	IntH (%)	Principle	o/s Balance
1	5.0156	2.025	2.9906	19.5094
2	5.0156	1.7558	3.2597	16.2496
3	5.0156	1.4625	3.5531	12.6965
4	5.0156	1.1427	3.8729	8.8236

	1	2	3	4
EBIT	48	57	68	82
(-) Intt Debtenture (w.N.L)	2.025	1.756	1.462	1.143
Loan	12.80	12.80	12.80	12.80
EBT	33.175	42.444	53.738	68.057
(-) Tax @ 35%				
EAT	21.564	27.589	34.930	44.237
(-) Dividend (12.578)	2.695	3.449	4.366	5.530
Retain Earning	18.868	24.140	30.564	38.707
c/f	-	18.868	43.068	73.572
	18.868	43.068	73.572	112.272

Book Value of Equity (Today) = $(60 + 22.50) = 82.50$

After 4 years $(82.50 + 112.272) = 194.772$

$$82.50 (1+g)^4 = 194.772$$

$$g = \left[\left(\frac{194.772}{82.50} \right)^{1/4} - 1 \right] \times 100$$

$$= 23.96\% \text{ p.a.}$$

Yes, growth in B.V. of Equity is more than 20%

Ven cap demand 18 shares for 1 warrant

If Mr. Smith Accepts demand

Equity Hold by Mr. Smith

Total shares = 6 cr.

Equity Hold by Ven cap

Existing	2.25 cr.
Convertible ($\frac{22.50}{100}$) 18 shares	4.05 cr.
	<u>6.30 cr.</u>

Mr. Smith should not accept the proposal because Mr. Smith lose their majority ownership.