Paper 20 - Strategic Performance Management & Business Valuation

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Full Marks: 100 **Time allowed: 3 hours**

The figures in the margin on the right side indicate full marks.
Working notes should form part of the answer.

Section - A

Answer Question No. 1 which is compulsory and any two from the rest of this section

1. Multiple choice questions: [5×2=10]
[1 mark for right choice and 1 mark for justification]

(i) If Cost Function is $C = \frac{3}{5}x + \frac{15}{4}$, the cost when output is 5 units will be:

(A) 6.80
(B) 6.75
(C) 6.20
(D) 6.25

(ii) Which of the following is a cause for corporate distress?
(A) Fraud by Management
(B) Working Capital Problems
(C) Mismanagement
(D) All of the above.

(iii) The type of benchmarking, which is concerned with the development of core competencies that will help sustained competitive advantage, is called:
(A) Global Benchmarking
(B) Strategic Benchmarking
(C) Internal Benchmarking
(D) Competitive Benchmarking

(iv) The rate of change in the demand due to the change in the income is called:
(A) income elasticity of demand
(B) cross elasticity of demand
(C) price elasticity of demand
(D) None of the above.

(v) The risk which refers to the possibilities of loss due to factors such as religious fanaticism, ethnic polarization, dissatisfaction among the people as a result of wide disparity in income distribution, or regionalism, is called:
(A) Social Risk
(B) External Risk
(C) Political Risk
(D) Country Risk.

Answer:

(i) (B) Cost when output is 5 units $= \frac{3}{5} \times 5 + \frac{15}{4} = 6.75$

(ii) (D) The causes for corporate distress can be — Technological Causes, Working Capital Problems, Economic Distress, Mismanagement, Fraud by Management etc.

(iii) (B) Strategic Benchmarking helps to develop a vision of the changed organizations. It will develop core competencies that will help sustained competitive advantage.

(iv) (A) The income elasticity of demand explains the proportionate change in income and proportionate change in demand.

(v) (A) The risk which refers to the possibilities of loss due to factors such as religious fanaticism, ethnic polarization, dissatisfaction among the people as a result of wide disparity in income distribution, or regionalism, is called social risk.

2.(a) What do you mean by 'Customer Relationship Management' (CRM)? List the advantages and benefits of 'Customer Relationship Management'. [5+5=10]

(b)(i) What are the characteristics of Enterprise Resource Planning (ERP)?

(ii) What are the reasons for the failure of ERP? [4+6=10]

Answer:

(a) Customer Relationship Management (CRM): It is a business strategy comprised of process, organizational and technical change whereby a company seeks to better manage its enterprise around its customer behaviors. It entails acquiring and deploying knowledge about customers and using this information across the various customers touch points to increase revenue and achieve cost reduction through operational efficiencies.

The adoption of CRM is being fuelled by recognition that long-term relationships with customers are one of the most important assets of an organization. CRM entails all aspects of interaction that a company has with its customer, whether it is sales or service related.

CRM is often thought of as business strategy that enables businesses to:

- Understand the customer
- Retain customers through better customer experience
- Attract new customer
- Win new clients and contracts
- Increase profitability
- Decrease customer management costs.

CRM is an integrated approach to identifying, acquiring and retaining customers. By enabling organizations to manage and coordinate customer interactions across multiple channels, departments, lines of business and geographies, CRM helps organizations maximize the value of every customer interaction and drive superior corporate performance.

Advantages and benefits of CRM: The following are some of the advantages and benefits of CRM:

- satisfied customer does not consider leaving
- Product Development can be defined according to current customer needs
- a rapid increase in quality of products and services.
- the ability to sell more products
- optimization of communication costs
- trouble-free run of business processes
- fast and reliable predictions
- increase effectiveness of team work
- increase in staff motivation
- real time access to information
- more time for customers
- better communication between Marketing, Sales and Services.

(b)(i) The characteristics of Enterprise Resource Planning (ERP) are:

ERP refers top techniques and concepts for integrated management of business as a whole from the view point of the effective use of management resources to improve the efficiency of enterprise management. ERP provides integrated business software modules to support functional units of an enterprise. An ideal ERP system should have following characteristics;

1. Flexibility: An ERP system must be flexible enough to respond fast to the changing needs of the organization. The client server technology enables ERP to run across various databases at the back end using open database connectivity.
2. Modular and open: ERP system has the open architecture i.e. any modules can be interfaced or dethatched without affecting the rest of the modules. It should support multiple hardware platforms as well as third party add-on solutions.
3. Beyond the company: It is confined to the organizational boundaries rather it is extended to the external business entities connected to the organization with online connectivity.
4. Best business practice: It has inbuilt best business practices applicable worldwide and imposes its own strategies and logics over existing culture and processes of organization.

(ii) Reasons for failure of ERP:

An organization cannot reap desired benefits from the ERP system under the following circumstances:

- Lack of effective project management
- Inability to resolve issues and make decisions in timely manner
- Resources not available when needed
- Perceived or real lack of executive support
- Software fails to meet business needs
- Under estimated levels of change management
- Improper communication
- Insufficient end user training
- Failure in gap analysis
- Failure to identify future business needs
- Technological obsolescence
- Failure to make available user-friendly checklist/guidelines.

3.(a) A manufacturer can sell "X" items ($X \geq 0$) at a price of (330 – X) each; the cost of producing 'X' items is ₹ ($X^2 + 10X + 12$). How many items should he sell to make the maximum profit? Also determine the maximum profit. [10]

(b) There are various causes for corporate distress. Write down those causes to analyse corporate distress. [10]

Answer:

(a) Given price (p) = 330-x

Cost(c) = $x^2 + 10x + 12$

Output = $x \geq 0$

Revenue (R) = $p\,x = (330 - x)\,x = 330\,x - x^2$

Profit = R - C

= $(330x - x^2) - (x^2 + 10x + 12) = 320X - 2X^2 - 12$ (say y)

In order to achieve maximum profit

$\frac{dy}{dx} = 0$ and $\frac{d^2y}{dx^2}$ = positive

$\frac{dy}{dx} = 320 - 4x = 0$

or, x = 80

$\frac{d^2y}{dx^2} = -4$, which is negative. Therefore profit is maximum at x = 80 units.

Maximum profit = $320\,(80) - 2(80)^2 - 12$

$=25600 - 12800 - 12$

=12788.

(b) Causes to analyse corporate distress:

1. Technological Causes:

   Traditional methods of doing work have been turned upside down by the development of new technology. If within an industry, there is failure to exploit information technology and new production technology, the firms can face serious problems and ultimately fail.

   By using new technology, cost of production can be reduced and if an organization continues to use the old technology and its competitors start using the new technology; this can be detrimental to that organization. Due to high cost of production, it will have to sell its products at higher prices than its competitors and this will consequently reduced its sales and the organization can serious problems.

2. Working Capital Problems:

   Organizations also face liquidity problems when they are in financial distress. Poor liquidity becomes apparent through the changes in the working capital of the organization as they have insufficient funds to manage their daily expenses.

   Businesses, which rely only on one large customer or a few major customers, can face severe problems and this can be detrimental to the businesses. Losing such a customer can cause big problems and have negative impact on the cash flows of the businesses.

   Besides, if such a customer becomes bankrupt, the situation can even become worst, as the firms will not be able to recover these debts.

3. Economic Distress:

A turndown in an economy can lead to corporate failures across a number of businesses. The level of activity will be reduced, thus affecting negatively the performance of firms in several industries. This cannot be avoided by businesses.

4. Mismanagement:

Inadequate internal management control or lack of managerial skills and experience is the cause of the majority of company failures. Some managers may lack strategic capability that is to recognize strengths, weaknesses, opportunities and threats of a given business environment. These managers tend to take poor decisions, which may have bad consequences afterwards.

Furthermore, managers of different department may not have the ability to work closely together. There are dispersed department objectives, each department will work for their own benefits not towards the goal of the company. This will bring failure in the company.

5. Over-expansion and Diversification:

Research has shown that dominant CEO is driven by the ultimate need to succeed for their own personal benefits. They neglect the objective set for the company and work for their self-interest. They want to achieve rapid growth of the company to increase their status and pay level. They may do so by acquisition and expansion.

The situation of over expansion may arise to the point that little focus is given to the core business and this can be harmful as the business may become fragment and unfocused. In addition, the companies may not understand the new business field.

6. Fraud by Management:

Management fraud is another factor responsible for corporate collapse. Ambitious managers may be influenced by personal greed. They manipulate financial statements and accounting reports. Managers are only interested in their pay checks and would make large increase in executive pay despite the fact that the company is facing poor financial situation. Dishonest managers will attempt to tamper and falsify business records in order to fool shareholders about the true financial situation of the company. These fraudulent acts or misconduct could indicate a serious lack of control. These frauds can lead to serious consequences: loss of revenue, damage to credibility of the company, increased in operating expenses and decrease in operational efficiency.

7. Poorly Structured board:

Board of Directors is handpicked by CEO to be docile and they are encouraged by executive pay and generous benefits. These directors often lack the necessary competence and may not control business matters properly. These directors are often intimated by dominant CEO and do not have any say in decision making.

8. Financial Distress:

Firms that become financially distressed are found to be under- performing relative to the other companies in their industry. Corporate failure is a process rooted in the management defects, resulting in poor decisions, leading to financial deterioration and finally corporate collapse. Financial distresses include the following reasons also low and declining profitability, investment Appraisal, Research and Development and technical insolvency amongst others.

A firm may fail, as its returns are negative or low. A firm that consistently reports operating losses probably experiences a decline in market value. If the firm fails to earn are turn greater than its cost of capital, it can be viewed as having failed. Falling

profits have an obvious link with both financial and bankruptcy as the firm finds it is not generating enough money to meet its obligations as they fall due.

Another cause that will lead the company to fail is the investment appraisal. Many organizations run into difficulties as they fail to appraise investment projects carefully. The long-term nature of many projects means that outcomes are difficult to forecast and probabilities are usually subjective.

4.(a) What is Risk Mapping? State the benefits of Risk Mapping. [10]

(b) Write short note on:

(i) MOLAP

(ii) ROLAP [5+5]

Answer:

(a) Risk mapping is the process of identifying, quantifying and prioritizing the risks that may interfere with the achievement of organizational objectives.

Its aim is to arrive at a clear set of action plans that improve risk management controls, in areas where these are necessary and help the management of the organization's direct resources.

Risk mapping should start from process mapping and from identifying critical risks in each process phase, linked either to key people, to systems, to interdependencies with external players, or to any other resource involved in the process. Subsequently, potential effects of errors, failures or improper behavior should be analyzed. This may also lead to identifying priorities in terms of control actions. Of course, special care should be given to high-severity risks, even if they appear unlikely to occur.

Benefits of Risk Mapping:

- Promotes awareness of significant risks through priority ranking, facilitating the efficient planning of resources.
- Enables the delivery of solutions and services across the entire risk management value chain.
- Serves as a powerful aid to strategic business planning.
- Aids the development of an action plan for the effective management of significant risks.
- Assigns clear responsibilities to individuals for the management of particular risk areas.
- Provides an opportunity to leverage risk management as a competitive advantage.
- Facilitates the development of a strategic approach to insurance programme design.
- Supports the design of the client's risk financing and insurance programmes, through the development of effective/optimal retention levels and scope of coverage etc.

(b)(i) MOLAP (Multidimensional On-Line Analytical Processing:

MOLAP is a "multi-dimensional online analytical processing".'MOLAP' is the 'classic' form of OLAP and is sometimes referred to as just OLAP. MOLAP stores this data in an optimized multi-dimensional array storage, rather than in a relational database. Therefore it requires the pre-computation and storage of information in the cube - the operation known as processing. MOLAP tools generally utilize a pre- calculated data set referred to as a data cube. The data cube contains all the possible answers to a given range of questions. MOLAP tools have a very fast response time and the ability to quickly write back data into the data set.

(ii) ROLAP (Relational On-Line Analytical Processing):

ROLAP works directly with relational databases. The base data and the dimension tables are stored as relational tables and new tables are created to hold the

aggregated information. Depends on a specialized schema design, this methodology relies on manipulating the data stored in the relational database to give the appearance of traditional OLAP's slicing and dicing functionality. In essence, each action of slicing and dicing is equivalent to adding a "WHERE" clause in the SQL statement. ROLAP tools do not use pre-calculated data cubes but instead pose the query to the standard relational database and its tables in order to bring back the data required to answer the question. ROLAP tools feature the ability to ask any question because the methodology does not limit to the contents of a cube. ROLAP also has the ability to drill down to the lowest level of detail in the database.

Section - B

Answer Question No. 5 which is compulsory and any two from the rest of this section

5. Multiple choice questions: [5×2=10]

[1 mark for right choice and 1 mark for justification]

(i) Given the growth rate in the dividends is expected to be 8%. The Beta of the Stock is 1.60 and return on the market index is 13%. The required rate of return would be:

(A) 14%
(B) 16%
(C) 18%
(D) 20%.

(ii) The risk-free rate = 5.5%, the market price of risk = 7%, the company's beta = 1.2, then Cost of equity will be?

(A) 12.5%
(B) 13.6%
(C) 13.7%
(D) 13.9%.

(iii) Sun Ltd. has announced issue of warrants on 1:1 basis for its equity shareholders. The warrants are convertible at an exercise price of 12. Warrants are detachable and trading at ₹7. What is the minimum price of the warrant if the current price of the stock is ₹16?

(A) ₹ 6
(B) ₹ 4
(C) ₹ 10
(D) ₹ 12.

(iv) Assume that the following details are given for a company:
Sales - ₹1,00,000; Costs - ₹75,000; Depreciation - ₹20,000; Tax - 35%; Change in Net Working Capital - ₹1,000; Change in Capital Spending - ₹10,000. The Free Cash Flow to Firm (FCFF) for the given data would be:

(A) ₹ 10,000
(B) ₹ 12,250
(C) ₹ 13,500
(D) ₹ 15,000.

(v) Identify which of the following is not a financial liability for a company:

(A) X Ltd. has 1 lac ₹10 ordinary shares issued
(B) X Ltd. has 1 lac 87 ₹10 redeemable preference shares issued
(C) None of the above
(D) Both.

Answer:

(i) (B) 16%

Required Rate of Return = $R_f + \beta (R_m - R_f)$ = 8% + 1.6 (13% - 8%) = 16%

(ii) (D) 13.9%

Cost of Equity = 5.5% + 7% (1.2)
= 13.9%

(iii) (B) ₹4

Minimum Price of warrant of Sun Ltd. = Current stock price - Exercise price of warrant
= ₹ (16-12) = ₹4.

(iv) (B) ₹12,250

Sales – Cost –Depreciation	₹ 5,000
Less – Tax	₹ 1,750
PAT	₹ 3,250
Add – Deprecation	₹20,000
Less – Change in Net Working Capital	₹1,000
Less – Change in Capital Spending	₹10,000
Free Cash Flow to Firm (FCFF)	₹12,250

(v) (A) X Ltd. has 1 lac ₹10 ordinary shares issued

6.(a) If, Earnings per share: ₹ 3.15;

Capital Expenditure per share: ₹3.15.

Depreciation per share: ₹ 2.78

Change in working capital per share: ₹0.50 Debt financing ratio: 25%

Earnings, Capital expenditure, Depreciation, Working Capital are all expected to grow at 6% per year. The beta for stock is 0.90. Treasury bond rate is 7.5%. A premium of 5.50% is used for market.

Calculate value of stock. **[10]**

(b) XM Ltd. had earning per share of ₹11.04 in 2014-15 and paid a dividend of ₹7 per share. The growth rate in earnings and dividends in the long term is expected to be 5%. The return on equity at SM Ltd. is expected to be 13.66%. The beta of SM Ltd. is 0.80 and the risk free Treasury bond is 6% while risk premium is 4%. Based on the information, calculate price to Book Value Ratio. **[5]**

(c) Describe the three variations of Relative Valuation. **[5]**

Answer:

(a) Estimating Value:

Long term bond rate 7.5%
Cost of equity = 7.5% + (0.90 x 5.50%) = 12.45%
Expected growth rate 6%
Base year FCFE = Earning per share – (Capital Exp. – Dep.) (1 – Debt Ratio) – Change in working capital (1 – Debt Ratio)
=3.15 – (3.15 – 2.78) (1 – 0.25) – 0.50 (1 – 0.25)
=2.49
Value per share = 2.49 x 1.06 / (0.1245 – 0.06) = ₹41.

(b) Current dividend payout ratio = 7 / 11.04 x 100 = 63.41%
Expected growth rate in earnings and dividends = 5%
Return on equity = 13.66%

Cost of equity = 6% + 0.80 x 4% = 6% + 3.2% = 9.20%
PBV Ratio = ROE x Payout Ratio / (Cost of equity – Growth rate)
= 0.1366 x 0.6341 / (0.092 – 0.05) = 2.06

(c) In relative valuation, the value of an asset is based upon how similar assets are priced. In practice, there are three variations of relative valuation, with the differences primarily in how we define comparable firms and control for differences across firms:

(i) Direct comparison: In this approach, analysts try to find one or two companies that look almost exactly like the company they are trying to value and estimate the value based upon how these similar companies are priced. The key part in this analysis is identifying these similar companies and getting their market values.

(ii) Peer Group Average: In the second, analysts compare how their company is priced (using a multiple) with how the peer group is priced (using the average for that multiple). Thus a stock is considered cheap if it trade at 12 times earnings and the average price earnings ratio for the sector is 15. Implicit in this approach is the assumption that while companies may vary widely across a sector, the average for the sector is representative for a typical company.

(iii) Peer group average adjusted for differences: Recognizing that there can be wide differences between the company being valued and other companies in the comparable firm group, analysts sometimes try to control for differences between companies. In many cases, the control is subjective: a company with higher expected growth than the industry will trade at a higher multiple of earnings that the industry average but how much higher is left unspecified. In a few cases, analysts explicitly try to control for differences between companies by either adjusting the multiple being used or by using statistical techniques. As an example of the former, consider PEG ratios. These ratios are computed by dividing PE ratios by expected growth rates, thus controlling (at least in theory) for differences in growth and allowing analysts to compare companies with different growth rates.

7.(a) From the following information concerning Swastik Ltd., prepare a statement showing computation of EVA for the year ended 31st March 2018.
Summarized Profit and Loss Account for the year ended 31st March 2018.

		₹
Sales		**20,00,000**
Cost of goods sold		**12,00,000**
Gross Profit		**8,00,000**
Expenses:		
General	**2,00,000**	
Office and administration	**2,50,000**	
Selling and distribution	**64,000**	**5,14,000**
Profit before interest and tax (PBIT)		**2,86,000**
Interest	**36,000**	**36,000**
Profit before tax (PBIT)		**2,50,000**
Tax 40%		**1,00,000**

Profit after tax	**1,50,000**

Summarized Balance Sheet as on 31st March 2018

Particular	2018 (₹)
EQUITY AND LIABILITIES:	
SHARE HOLDER'S FUNDS	
Share capital	**2,40,000**
Reserves and Surplus	**1,60,000**
	4,00,000
NON-CURRENT LIABILITIES	
Long –term Borrowings	**2,40,000**
	2,40,000
CURRENT LIABILITIES	
Trade Payables	**1,60,000**
	1,60,000
TOTAL	**8,00,000**
ASSETS	
NON-CURRENT ASSETS	
FIXED ASSETS	
Tangible assets	**6,00,000**
	6,00,000
CURRENT ASSETS	
Inventories	**1,20,000**
Trade receivables	**60,000**
Cash and bank balances	**20,000**
	2,00,000
TOTAL	**8,00,000**

Other particulars:

(i) Cost of goods includes depreciation expenses of ₹60,000.
(ii) The expectation return of shareholders is 12%. **[10]**

(b) Tridev Ltd. is in the business of making sports equipment. The Company operates from Thailand. To globalise its operations Tridev has identified Try Toys Ltd., an Indian Company, as a potential takeover candidate. After due diligence of Try Toys Ltd, the following information is available:

(A) Cash Flow Forecasts (₹in Crores)

Year	10	9	8	7	6	5	4	3	2	1

Try Toys Ltd.	**24**	**21**	**15**	**16**	**15**	**12**	**10**	**8**	**6**	**3**
Tridev Ltd.	**108**	**70**	**55**	**60**	**52**	**44**	**32**	**30**	**20**	**16**

(B) The Net Worth of Try Toys Ltd (in Lakh ₹) after considering certain adjustments suggested by the due diligence team reds as under —

Tangible	**750**	
Inventories	**145**	
Receivables	**75**	**970**
Less- Creditors	**165**	
Bank Loans	**250**	**(415)**
Represented by Equity Shares @ ₹ 1000 each		**555**

Talks for the takeover have crystallized on the following –

(i) Tridev Ltd. will not be able to use Machinery worth ₹75 Lakhs which will be disposed of by them subsequent to take over. The expected realization will be ₹50 Lakhs.

(ii) The inventories and receivables are agreed for takeover at values of ₹100 and ₹50 Lakhs respectively, which is the price they will realize on disposal.

(iii) The liabilities of Try Toys Ltd will be discharged in full on take over along with an employee settlement of ₹90 Lakhs for the employees who are not interested in continuing under the new management.

(iv) Tridev Ltd will invest a sum of ₹150 Lakhs for upgrading the Plant of Try Toys Ltd on takeover. A further sum of ₹50 Lakhs will also be incurred in the second year to revamp the machine shop floor of Try Toys Ltd.

(v) The anticipated cash flow (in ₹Crore) post takeover are as follows-

Year	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Cash Flows	**18**	**24**	**36**	**44**	**60**	**80**	**96**	**100**	**140**	**200**

You are required to advise the management the maximum price which they can pay per share of Try Toys Ltd., if a discount factor of 15% is considered appropriate. [10]

Answer:

(a) Calculation of ROOC

	₹
EBIT	2,86,000
Less: Tax (40%)	1,14,400
NOPAT	1,71,600

Calculation of Operating Capital	₹
Equity Share Capital	2,40,000
+ Reserve & Surplus	1,60,000
+ Term Loans	2,40,000
Operating Capital	6,40,000

$$ROOC = \frac{1,71,600}{6,40,000} \times 100 = 26.81\%$$

Calculation of WACC

$K_d = \frac{36,000}{6,40,000}$ x (1 – 0.40) = 3.38%

$K_e = \frac{12\%}{6,40,000}$ x 4,00,000 = 7.50%

WACC (3.38% + 7.50%) = 10.88%

EVA = (26.81% - 10.88%) x 6,40,000 = ₹ 1,01,95,200

(b) (i) Computation of Operational Synergy expected to arise out of merger (₹ Lakhs):

Year	1	2	3	4	5	6	7	8	9	10
Cash flow after merger	1,800	2,400	3,600	4,400	6,000	8,000	9,600	10,000	14,000	20,000

Cash flow without merger	1,600	2,000	3,000	3,200	4,400	5,200	6,000	5,500	7,000	10,800
Synergy Effect	200	400	600	1,200	1,600	2,800	3,600	4,500	7,000	9,200

(ii) Valuation of Try toys Ltd. (₹ in Lakhs)

		Without Merger		Considering Merger	
Year	Discount Factor	Cash Flows	Discounted Cash Flow	Cash Flow	Discounted Cash Flow
1	0.870	300	261.00	200	174.00
2	0.756	600	453.60	400	302.40
3	0.657	800	525.60	600	394.20
4	0.572	1000	572.00	1200	686.40
5	0.497	1200	596.40	1600	795.20
6	0.432	1500	648.00	2800	1209.60
7	0.376	1600	601.60	3600	1353.60
8	0.327	1500	490.50	4500	1471.50
9	0.284	2100	596.40	7000	1988.00
10	0.247	2400	592.40	9200	2272.40
			5337.90		10,647.30
			5338.00		10,647.00

(iii) Computation of Maximum Value to be quoted

Particulars	₹ in Lakhs	₹ in Lakhs
Value as per discounted Cash flow from Operations		10,647
Add – Cash to be collected immediately by disposal of assets:		
Sundry Fixed Assets	50	
	150	
	165	
	90	
	250	
	150	
	38	693
Maximum Amount to be quoted		10,154
Difference in Valuation had there been no merger = (10,647 – 5,338) = ₹5,309 Lakhs.		

8.(a) The following information is provided in relation to the acquiring firm M Ltd. and the target firm P Ltd.

Particulars	M Ltd.	P Ltd.
Earnings after tax (₹)	**200 lakhs**	**40 lakhs**
Number of shares outstanding	**20 lakhs**	**10 lakhs**
P /E Ratio	**10**	**5**

Required:

(i) What is the swap ratio in terms of current market price?

(ii) What is the EPS of M Ltd. after acquisition?

(iii) What is the expected market price per share of M Ltd. after acquisition assuming that P / E ratio of M Ltd. remains unchanged?

(iv) Determine the market value of the merged firm. [8]

(b) A Ltd. is planning to acquire T Ltd. and the following information is provided in relation to the acquisition about both the companies: 50%.

Particulars	A Ltd.	T Ltd.
Profit after tax (₹ in lakhs)	**250**	**50**
Number of shares outstanding (in lakhs)	**20**	**10**
P/E Ratio	**16**	**12**

Required:

(i) What will be the swap ratio it is to be determined on the basis of market prices?

(ii) Assuming that the swap ratio is on the basis of market price, what will be the market value of A Ltd. after acquisition if the merged entity expected to have a P/E ratio of 20? [12]

Answer:

(a)

Particulars	M Ltd.	T Ltd.
Earnings after tax (₹)	200 lakhs	40 lakhs
Number of shares outstanding	20 lakhs	10 lakhs
P / E Ratio	10	5
ESP	10	4
Market price (₹)	100	20

(i) Swap ratio in terms of market prices: 20/100 = 0.20

(ii) EPS of M Ltd. after acquisition: (200 + 40) / (20 + 0.2×10) = 240/22 or say ₹10.91

(iii) Expected market price per share of M Ltd. with the same P/E ratio of 10 will be: 10.91 × 10 = ₹109.10

(iv) Market value of merged firm: Total number of outstanding shares × market price = ₹ 2,400.2 lakhs.

(b)

Particulars	A Limited	T Limited
Profit After Tax (₹ in lacs)	₹250.00	₹50.00
Number of Shares Outstanding	20	10
P/E Ratio	16	12
EPS	₹12.50	₹5.00
Price	₹200.00	₹60.00
Swap Ratio on the basis of Market Price	0.30:1 (That is 0.3 share of A Ltd. for one share of T Ltd.)	

Assuming that there is no synergy gains, Profits After Tax of the merged entity will be (in lacs)	₹300.00
Given the swap ratio of 0.30 shares of A Limited for one share of T Limited, the number of new shares issued by A Limited will be	3
Total Number of shares outstanding of A Limited after acquisition will be	23
EPS of merged entity will be	₹13.04

Given the P/E Ratio of 20, the market price of the merged entity will be	₹260.80