STRATEGIC PERFORMANCE MANAGEMENT AND BUSINESS VALUATION

Time Allowed: 3 Hours **Full Marks: 100**

The figures in the margin on the right side indicate full marks.

SECTION – A (Compulsory)

1. Choose the correct option: **[15 x 2 = 30]**

(a) (i) _______is the uncertainty of the purchasing power of the monies to be received, in the future?

(A) Market risk
(B) Physical risk
(C) Purchasing power risk
(D) Interest rate risk

(ii) Under perfect competition and at the point of equilibrium of firm:

(A) MC curve must be falling
(B) MC curve must be rising
(C) MR curve must be falling
(D) None of the above

(iii) Risk Management Strategies are:

(A) Avoid Risk, Reduce Risk, Retain Risk, Combine Risk
(B) Transfer Risk, Share Risk and Hedge Risk
(C) Both (a) and (b)
(D) None of the above

(iv) Benchmarking focuses on:

(A) Production
(B) Profit
(C) Best Practices
(D) Best performance

(v) The _________ elements of Going Concern Value result from factors such as having a trained work force, an operational plant, the necessary licenses, marketing systems, and procedures in place etc.

(A) Intangible
(B) Tangible
(C) Fixed Asset
(D) Current Asset

(vi) Estimated fair value of an asset is based on the __________ value of operating cash flows.

(A) Current
(B) Discounted
(C) Future
(D) None of these

(vii) ________is the yield actually earned by the investor on his investment and depends on the reinvestment rate and the holding period chosen by him.

(A) Realised Yield
(B) Yield to Maturity
(C) Current Yield
(D) None of the above

(viii) If the Value of target Co. is ₹ 500 Million and the value of acquiring company is ₹ 800 Million. Present value of cost savings if the two companies are merged together is ₹ 100 million. Acquiring company expects the cost of integration as ₹ 80 million and the shareholders of Target Co. are expecting a deal premium to be paid of 15 percent over their company's value. what is the value of Combined entity?

(A) ₹ 1400 million
(B) ₹ 1345 million
(C) ₹ 1445 million
(D) ₹ 1540 million

(ix) ________ are often done by Private Equities, Venture Capitalists and portfolio companies who acquirer a company purely for their value and normally do not make significant operational changes.

(A) Financial Acquisition
(B) Strategic acquisitions
(C) Hostile takeover
(D) None of these

(x) 8% bond of Face Value ₹ 100 is selling for ₹ 96. What would be its Current Yield?

(A) 8%
(B) 12%
(C) 8.33%
(D) None of the above

(b) **There are eight stores (A to H) across a city in which certain number of employees (given in the table below) effects Sales in a particular month.**

Stores (DMUs)	A	B	C	D	E	F	G	H
Employee (No.)	20,400	32,000	34,200	44,000	54,000	54,000	62,000	80,000
Sales (₹)	16,000	27,500	25,400	44,000	46,000	43,200	56,000	58,000

Based on the above case, you are required to answer the questions no. from (xi) to (xv).

(xi) What is the efficiency in terms of sales per employee of Store F?

(A) 1.25
(B) 0.80
(C) Insufficient data
(D) None of the above.

(xii) From the above table, which Store has the highest efficiency score in terms of sales per employee?

(A) A
(B) B
(C) C
(D) D

(xiii) If the efficiency scores are plotted with number of employees on the horizontal axis and sales on the vertical axis, the slope of the line connecting each point to the origin corresponds to the sales per employee and the highest slope is attained by the line from the origin, is called ________________

(A) Regression Line
(B) Efficient Frontier
(C) Relative Efficiency Line
(D) None of the above.

(xiv) As per the above Q. No. (xiii), the highest slope line will touch the point for Store ________.

(A) B
(B) D
(C) F
(D) G

(xv) The above case is an example of:

(A) Data Envelopment Analysis
(B) Du-Pont Analysis
(C) RONA Model
(D) Total Productive Maintenance

Answer:

i	ii	iii	iv	v	vi	vii	viii	ix	x
C	B	C	D	A	B	A	A	A	C
xi	xii	xiii	xiv	xv					
B	D	B	B	A					

SECTION – B

(Answer any five questions out of seven questions given. Each question carries 14 Marks.)
[5x14=70]

2. (a) Describe Supply Chain. Explain the components of Supply Chain Management. [7]

(b) Interpret the steps for implementation of Total Quality Management. [7]

Answer:

(a) A supply chain may be defined as a group of interconnected companies which depend on each other for supplies of goods and other services.

In a supply chain, the 'links are the participating companies. These are also referred as the supporting companies This can either on the upstream side of the material flow and are referred to as a supplier or can be on the downstream side of the material flow and is referred to as the customer. The Original Equipment Manufacturer (OEM) is sometimes also referred to as the Original Brand Manufacturer (OBM) is in the middle and are also referred to as the 'focal' company.

Supply chain is also known as 'value chain' when the 'links' are considered as value adding activities. The supply chain is also considered as a 'demand chain' when the chain is considered as a continuous demand originated from the consumers stretched to upstream suppliers. There are four intrinsic flows of the supply chain.

1. Material flow: For all manufacturing entities, materials flow from the beginning of the supply chain and flows to the customers as finished products, who are at the end of the supply chain.
2. Information flow: Unlike material flows, information flows both upstream and downstream. It is important to note that information requirement and flow is specific to a supply chain and differs from requirement in another supply chain.

3. Finance flow: Finance is the lifeblood of business and therefore smooth finance flow is an important aspect of the supply chain. Without smooth finance flow supply chains falters and becomes ineffective. Finance flows downstream and ultimately adds value to the supply chain.
4. Commercial flow: Most supply chains represent a transactional commercial flow. This means that the material flow that runs through the supply chain changes its ownership. This transactional commercial flow will only take place in a supply chain where there are more than one company in the supply chain.

The components of Supply Chain Management:

As such, companies in the supply chain -referred as 'links'- have to make effective decisions regarding the five specific areas.

1. Production: Producing as per requirements of the market is the primary requirement of supply chain management. It needs immaculate planning. Master production schedules have to be in place which takes into account plant capacities, workload balancing, quality control and equipment maintenance scheduling.
2. Inventory: In supply chain management, decisions regarding inventory to be held at each stage of the supply chain is crucial as a wrong decision has a cascading effect. Inventory often acts as a buffer against uncertainty in the supply chain. However higher the inventory, higher is the cost of holding. Thus optimal inventory levels need to be fixed which will have a positive impact on all the links of the supply chain.
3. Location: The next important decision making issue, in supply chain management, is the selection of location for production and storage of inventory. The underlying issue is cost efficiency. These decisions facilitate products to flow through the supply to the final customer.
4. Transportation: Decision regarding inventory, discussed previously, is related to the mode of transportation. Cost effective mode of transportation results in delayed movement of products and uncertainty in transportation. The uncertainty may be countered with higher stock levels which will increase the cost of investment in inventory. Thus deciding upon the mode of transportation is critical to the success of the supply chain.
5. Information: Smooth flow of information is the key to successful implementation of supply chain and its management. With good information, people can make effective decisions about what to produce and how much, about where to locate inventory, and how best to

transport it.

(b) Steps for implementation of Total Quality Management

Stage 1: Identification of customers / customer groups: Through a team approach (a technique called Multi - Voting), the firm should identify major customer groups. This helps in generating priorities in the identification of customers and critical issues in the provision of decision – support information.

Stage 2: Identifying customer expectations: Once the major customer groups are identified, their expectations are listed. The question to be answered is - What does the customer expect from the Firm?

Stage 3: Identifying customer decision-making requirements and product utilities: By identifying the need to stay close to the customers and follow their suggestions, a decision - support system can be developed, incorporating both financial and non-financial information, which seeks to satisfy used requirements. Hence, the Firm finds out the answer to - What are the customer's decision-making requirements and product utilities? The answer is sought by listing out managerial perceptions and not by actual interaction with the customers.

Stage 4: Identifying perceived problems in decision-making process and product utilities: Using participative processes such as brainstorming and multi-voting, the firm seeks to list out its perception of problem areas and shortcomings in meeting customer requirements. This will list out areas of weakness where the greatest impact could be achieved through the implementation of improvements. The firm identifies the answer to the question What problem areas do we perceive in the decision-making process?

Stage 5: Comparison with other Firms and benchmarking: Detailed and systematic internal deliberations allow the Firm to develop a clear idea of their own strengths and weaknesses and of the areas of most significant deficiency. Benchmarking exercise allows the Firm to see how other Companies are coping with similar problems and opportunities.

Stage 6: Customer Feedback: Stages 1 to 5 provide a information base developed without reference to the customer. This is rectified at Stage 6 with a

survey of representative customers, which embraces their views on perceived problem areas. Interaction with the customers and obtaining their views helps the Firm in correcting its own perceptions and refining its process.

Stage 7 & 8: Identification of improvement opportunities and implementation of Quality Improvement Process: The outcomes of the customer survey, benchmarking and internal analysis, provides the inputs for stages 7 and 8. i.e., the identification of improvement opportunities and the implementation of a formal improvement process.

3. (a) The Cost function of a particular firm $c = \frac{1}{3}x^3 - 5x^2 + 75x + 10$ **, i) compute at which level, the Marginal Cost attains its minimum and also ii) compute the marginal cost of this level. [7]**

(b) Explain briefly the Risk Enabled Performance Management (REPM). Summarize the focus areas of the traditional ERM and also classify the areas of practices based on which transformation to REPM are done. [7]

Answer:

(a)

(i) C= $\frac{1}{3}x^3 - 5x^2 + 75x + 10$

Marginal Cost $= \frac{dc}{dx} = \frac{1}{3}x^3 - 5x^2 + 75x + 10$ = x2-10x+75 (say y)

In order that the MC to be at minimum, its second derivative value must be positive.

$\frac{dc}{dx}$ = 2x -10 or 2x= 10 or x=5.

$\frac{d^2c}{dx^2}$ =2, which is positive, so that the function will have minimum values, when x=5.

(ii) Therefore, Minimum Marginal Cost = 52 – (10×5) +75= 25-50+75
= 100 – 50 =50.

(b) For the purpose of handling uncertainties and opportunities at the same time, business leaders need to be incorporate risk exposure, what-if scenarios, uncertainty, best case/worst case forecast, earned value models, risk drivers and contingency plans etc in their business plans. They cannot afford the traditional

set up where risk is something handled independently by risk managers once a quarter. They need access to the insights, tools and models on a continuous basis. Thus, there is a need for a more comprehensive Risk Enabled Performance Management (REPM) which grows out of the traditional ERM model.

The focus areas of the traditional or foundational ERM may be summarized as

1. Independent enterprise risk identification and assessment process.
2. Risk reporting to the top management is one of the primary aspect of traditional ERM.
3. The risk management process is independent of operations and performance management.
4. Historical perspective design the evaluation of current exposure
5. The focus is on compliance

The transformation to REPM is based on some leading practices which are grouped in three aspects;

(A) REPM is used to measure and drive performance
  (i) Integrates risk and performance management.
  (ii) Creates linkages between KRIs and performance drivers.
  (iii) Uses data analytics for risk analysis

(B) REPM is forward looking
  (i) Defines future trends and undertakes predictive analysis
  (ii) Emerging risks are also considered
  (iii) Scenario analsyis and stress testing are two important tools used

(C) Action and result orientation - Risk and uncertainity are key elements in strategic and operational decision framework and management process.

4. (a) Mrs. EuCheu is an investor who has decided to invest her money in the business of either Retailer A and Retailer B. She researches their financial numbers and finds that the ROE for the both the Retailers are same at 45%. Thus she decides to look further and finds the following data; Retailer A's profit margin is 30%, asset turnover is 0.50, and equity multiplier is 3. Retailer B's Profit Margin of 15%; Asset Turnover is 3; and Equity Multiplier is 1.

She is confused as both the company's profitability is same when measured in terms of ROE. She seeks the advice of her friend Mr. Dune who is a qualified Cost Accountant. Evaluate and analyse the areas by which Mr. Dune can help Mrs. EuCheu for her investment decision using DuPont Analysis. [7]

(b) Balance Sheet (extract) of Q Ltd. as on 31st March 2024:

Liabilities	₹ in Crores	Assets	₹ in Crores
Equity Shares	20.80	Fixed Assets	105.60
Long-term Liabilities	104.00	Current Assets	57.60
Current Liabilities	78.40	Profit & Loss A/c	40.00
	203.20		203.20

Additional Information:
(i) Depreciation written off ₹ 8 crores.
(ii) Preliminary Expenses written off ₹ 1.60 crores.
(iii) Net Loss ₹ 25.60 crores.
Ascertain the stage of sickness. [7]

Answer:

(a) Mr. Dune makes the following observations

He breaks down the ROE to identify the meaning and value of the different variables in this problem.

In order to compare the profitability of Retailer A (ROE = 45%) with that of Retailer B (ROE = 45%) Mr Dune uses the DuPont Framework which states that DuPont ROE = Margin on Sales × Asset Turnover × Equity Multiplier

$$\Rightarrow \text{DuPont ROE} = \frac{\text{Net Profit}}{\text{Sales}} \times \frac{\text{sales}}{\text{Total Asset}} \times \frac{\text{total Asset}}{\text{Shareholders' Equity}}$$

In case of Retailer A
DuPont Return on Equity (ROE) [45%]
= Margin on Sales (30%) × Asset Turnover (0.50) × Equity Multiplier (3)

In case of Retailer B
DuPont Return on Equity (ROE) [45%]
= Margin on Sales (15%) × Asset Turnover (3) × Equity Multiplier (1)

On the basis of the above analysis, Mr Dune reports to Mrs EuCheu that;

A) Retailer A's business is more profitable in terms of rupee return generated against sales.

B) Regarding utilisation of assets at disposal, retailer B is better as its asset turnover is three against 0.50 of retailer A. This implies that management of retailer B is able to utilise more return against the assets

at its disposal.

C) The equity multiplier of retailer B is one (shareholders' equity equals total assets) implying that it is an all equity firm. Thus it may be inferred that the financial risk perception is nil. Whereas, the equity multiplier of retailer A is three, implying that the total assets (debt + shareholders' equity) is three times the shareholders' equity. And a portion of financing total asset is debt financing implying some amount of financial risk.

The analysis presented through the 3 component DuPont analysis may not suffice the financial information need of Mrs EuCheu, but provides her with analytical information about the financial health of the two retailers.

(b) There are three elements/ parameters for predicting the stages of corporate sickness. These parameters are: -

(i) A profitability measure reflected by Cash profit position = Net Profit ± Depreciation and other non-cash write off.
= -₹25.60 Cr. +₹ 8.00 Cr. +₹1.60 Cr. = - ₹16.00 Cr.

(ii) A liquidity measure by Net working capital position = Current Assets – Current Liabilities
=₹ 57.60 Cr. - ₹ 78.40 Cr. = ₹- ₹20.80 Cr.

(iii) A solvency measure i.e., Net worth position = Share Capital + Reserve and Surplus
= ₹20.80 Cr. – 40.00 Cr. = ₹ 19.20 Cr.

Prediction about Corporate Sickness: As per NCAER Research Study, out of three parameters mentioned, if any one parameter becomes negative in case of a firm, it can be predicted that the firm has a tendency towards sickness. In the given company, all the three parameters [as calculated under (i), (ii) and (iii)] show negative value. Therefore, it can strongly be predicted that the company is a sick company and its stage of sickness is 'fully sick'. Immediate necessary drastic revival measures are essentially required for the survival of the company.

5. (a) The free cash flow of Suvision Ltd is projected to grow at a compound annual average rate of 35% for the next 5 years. Growth is then expected to slow down to a normal 5% annual growth rate. The current year's cash flow of Suvision Ltd is ₹ 4 lakhs. Suvision Ltd.'s cost of capital during the high growth period is 18% and 12% beyond the fifth year, as growth stabilizes. Calculate the value of the Suvision Ltd. [7]

(b) Desai Ltd.'s Current Financial year's income statement reports its net income as ₹ 15,00,000. Desai's marginal tax rate is 40% and its interest

expense for the year was ₹ 15,00,000. The Company has ₹ 1,00,00,000 of invested capital, of which 60% is debt. In addition, Desai Ltd. tries to maintain a Weighted Average Cost of Capital (WACC) of 12.6%.

A) Compute the operating income or EBIT earned by Desai Ltd. in the current year.

B) Calculate Desai Ltd.'s Economic Value Added (EVA) for the current year.

C) Desai Ltd. has 2,50,000 equity shares outstanding. According to the EVA you computed in, compute how much can Desai pay in dividend per share before the value of the company would start to decrease. If Desai does not pay any dividend, demonstrate what would you expect to happen to the value of the company. [7]

Answer:

(a) Present Value of Cash Flows during the Forecast Period

$PV_{1-t} = \{[FCFE_0 \times (1 + g_t)_t]/ (1 + WACC)_t$

$= [(4 \times 1.35)/1.18] + [\{4 \times (1.35)^2\}/ (1.18)^2] + [\{4 \times (1.35)^3\} / (1.18)^3] + [\{4 \times (1.35)^4\} / (1.18)^4] + [\{4 \times (1.35)^5\} / (1.18)^5]$

$= 5.4 / 1.18 + 7.29/ (1.18)^2 + 9.84/ (1.18)^3 + 13.29/ (1.18)^4 + 17.931/ (1.18)^5$

= 4.58 + 5.24 + 5.99 + 6.85 + 7.84

= ₹30.50 lakh

Calculation of Terminal Value

Where $P_n = FCFE_n \times (1 + g) / (k_e - g)$

= ₹ (17.93 × 1.05) /0.12-0.05

= ₹ 18.83/0.07

= ₹ 269 Lakh

PV of Terminal Price= $269 / (1.18)^5 = 117.58$

$P_{0'FCFE} = PV_{1\ 5} - + PV_T$

= ₹30.50 + ₹117.58 = ₹ 148.08 lakh.

(b)

(A) Taxable income = Net income / (1 – 0.40)

Or, Taxable income = 15,00,000/ (1 – 0.40)
= ₹ 25,00,000

Again, taxable income = EBIT – Interest

Or, EBIT = Taxable Income + Interest
= 25,00,000 + 15,00,000
= ₹ 40,00,000

(B) EVA = EBIT (1 – T) – (WACC × Invested capital)

= ₹ 40,00,000 (1 – 0.40) – (0.126 × 1,00,00,000)

= ₹ 24,00,000 – 12,60,000

= ₹ 11,40,000

(C) EVA Dividend = ₹ 11,40,000/2,50,000

= ₹ 4.56

If Desai Ltd. does not pay a dividend, we would expect the value of firm to increase because it will achieve higher growth, hence a higher level of EBIT. If EBIT is higher, then all else equal, the value of the Firm will increase.

6. (a) Carwin Tracom Ltd. furnishes the following particulars about their investment in shares of Rose Commodities Ltd. for the year 2023-24:

Balance of shares held on 1st April 2023	**2,62,000**	**(10,000 shares of ₹10 each)**
Purchased 2,000 shares on 1st July 2023	**60000**	
Sold 500 shares on 1st August 2023 @ ₹35 per share cum dividend	**17500**	
Carwin Tracom Ltd. declared final dividend for 2022-23 on 1st September 2023. Received 1:5 bonus shares on 1st February, 2024.	**20%**	

Brokerage for each transaction is 2%. Calculate the cost of shares held by Carwin Tracom Ltd. as on 31st March 2024. [7]

(b) Calculate the Economic Value added from the following data:

Particulars	(₹ in lakhs) Year: 2023
Average Debt	**50**
Average Equity	**2766**
Cost of Debt %	**7.72**
Cost of Equity %	**16.70**
Weighted average cost of capital (%)	**16.54**
Profit after tax before exceptional items	**1541**
Interest after taxes	**5**

[7]

Answer:

(a) Statement of cost

Particulars	Amount (₹)	Amount (₹)
Balance (10000 shares)		2,62,000
Particulars	Amount (₹)	Amount (₹)
Purchased (2000 shares):		
Cost (cum-div)	60,000	
Add brokerage	1,200	
	61,200	
Less: Dividend for 2022-23	4,000	
		57200
Sold (500 shares cum div)		
Sale proceeds	17,500	
Less: brokerage 2%	350	
	17,150	
Less: Dividend for 2022-23	1,000	
Cost of sales (500 × 319200 / 12,000)		(13300)
Bonus shares (1:5) i.e. (11,500 × 1/5)		Nil
Cost of Investment		3,05,900

Cost of investment a ₹3,05,900

Cost of sales is computed on average cost basis.

Bonus shares are free and hence nothing is shown in amount column.

	₹
Dividend received from Samay Ltd. (11500 × 10) × 20%	23,000
Less: Dividend deducted from cost of investment	4,000
	19,000
Add: Dividend included in sales proceeds of 500 shares (received by the new buyer)	1,000
Dividend received to be shown in Profit & Loss A/c	20,000
Profit on sale of investment:	
Sale proceeds of 500 shares (net of brokerage)	17,150
Less: Dividend included above (to be considered as income)	1000
Less: cost of sales (on average cost basis)	13300
Profit on sales	2850

(b) EVA Calculation:

(₹ in lakhs)

1. Average debts	50
2. Average Equity	2766
3. Average capital (1 + 2)	2816
4. Cost of debt, post-tax %	7.72
5. Cost of Equity%	16.70
6. Weighted Avg. cost of Capital%	16.54
7. COCE (3) × (6)	466
8. Profit after tax before exceptional items	1541
9. Add. Int. after taxes	5
10. Net operating profits after taxes	1546
11. COCE	466
12. EVA (10 – 11)	1080

7. (a) ABC Ltd. run and managed by an efficient team that insists on reinvesting 60% of its earnings in projects that provide an ROE (return of equity) of 10%, despite the fact that the firm's capitalization rate (K) is 15%. The firm's current year's earning is ₹ 10 per share.
Calculate at what price the stock of ABC Ltd. Sell. Compute what is the present value of growth opportunities. Suggest why would such a firm be a takeover target. [7]

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

Particulars	**RIL**	**SIL**
Earnings After Tax (INR)	**20,00,000**	**10,00,000**
Equity shares (No.)	**10,00,000**	**10,00,000**
EPS (INR)	**2**	**1**
P/E ratio (times)	**10**	**5**

(i) Calculate the market value of each company before merger?

(ii) Assuming 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, calculate the market value of the post-merger RIL and also calculate the new price for share. Assess whether 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%. Compute the new post-merger EPS and price per share. Evaluate will the shareholders be better off or worse off than before the merger. [7]

Answer:

(a) Dividend growth rate G = ROE × b

Where, b = 1 – pay-out ratio

G = 10% × 0.60 = 6%

Stock price of ABC Ltd $= \frac{10 \times 0.4}{0.15 - 0.06} = \frac{4}{0.09}$ =₹44.44

Present value of growth opportunities (PVGO)

= market price per share – No growth value per share

=₹44.44 - $\frac{10}{0.15}$

= ₹44.44 – 66.66

= ₹-22.22 i.e., negative PVGO

Reasons for takeover target – Negative PVGO implies that the net present value of the firm's projects is negative; the rate of return on those assets is less than the opportunity cost of capital. Such a firm would be subject to takeover target because another firm could buy the firm for the market price of INR 44.44 per share and increase the value of the firm by changing its investment policy. For example, if the new management simply paid out all earning as dividend, the value of the firm would increase up to its no growth value of ₹ 66.66.

(b)

(i) Market value of companies before merger

Particulars	RIL	SIL
EPS (INR)	2	1
P/E ratio	10	5
Market price per share (INR) (EPS × P/E ratio)	20	5

Equity shares (No.)	10,00,000	10,00,000
Total market value (MPS × No. of Eq. Shared)	2,00,00,000	50,00,000

(ii) Post-merger effect on RIL

Post-Merger earnings ₹30,00,000
Equity shares ₹12,50,000

$10,00,000 + 10,00,000 \times \frac{1}{4}$

As exchange ratio is 1: 4

EPS: 2.4

P/E ratio 10.00

Market price per share
(EPS × P/E ratio) i.e., 10 × 2.4 24

Total Market Value
(MPS × No. of Eq. Shares)
i.e., (12,50,000 × 24) 3,00,00,000

Gains from Merger

Particulars	₹
Post-Merger Market value of the firm	3,00,00,000
Less: Pre-Merger market value	
RIL 2,00,00,000	
SIL 50,00,000	₹ 2,50,00,000
	₹ 50,00,000

Apportionment of Gains between shareholders

Particulars	RIL	SIL
Post-merger market value		
10,00,000 × 24	2,40,00,000	
2,50,000 × 24		60,00,000
Less : Pre merged market value	2,00,00,000	50,00,000
	40,00,000	10,00,000

Thus, the shareholders of both the Co. have gained from merger

Post-Merger Earnings

Increase in earnings by 20%

New earnings: ₹ 30,00,000 × 120% = 36,00,000

No. of equity share = 12,50,000

EPS = ₹ 36,00,000 ÷ 12,50,000 = ₹ 2.88

P/E ratio = 10

Market price per share = ₹ 2.88 × 10 = ₹ 28.

Hence, shareholders will be better off than before the merger situation.

8. (a) From the following income statement, illustrate a common size statement and also interpret the result.

Income Statement for the year ended 31st March

	2023 (₹)	2024 (₹)
Net Sales	10,50,000	13,50,000
Less : - Cost of goods sold	5,70,000	6,45,000
Gross Profit	4,80,000	7,05,000
Less :- Other operating expenses	1,50,000	2,16,000
Operating profit	3,30,000	4,89,000
Less :- Interest on long term debt	60,000	51,000
Profit before tax	2,70,000	4,38,000

[7]

(b) XYZ Ltd. is considering merger with ABC Ltd. XYZ Ltd.'s shares are currently traded at ₹ 25. It has 2,00,000 shares outstanding and its profits after taxes (PAT) amount to ₹ 4,00,000. ABC Ltd. has 1,00,000 shares outstanding. Its current market price is ₹ 12.50 and its PAT are ₹ 1,00,000. 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) Compute the pre-merger earnings per share (EPS) and P/E ratios of both the companies.

(ii) If ABC Ltd.'s P/E ratio is 8, calculate its current market price. Compute the exchange ratio and what will XYZ Ltd.'s post-merger EPS be?

(iii) Assess the exchange ratio, must be for XYZ Ltd. so that pre and post-merger EPS to be the same. [7]

Answer:

(a)

Particulars	2023 (₹)	%	2024 (₹)	%
Net Sales	10,50,000	100	13,50,000	100
Less : - Cost of goods sold	5,70,000	54.29%	6,45,000	47.78%
Gross Profit	4,80,000	45.71%	7,05,000	52.22%
Less :- Other operating expenses	1,50,000	14.29%	2,16,000	16.00%
Operating profit	3,30,000	31.43%	4,89,000	36.22%
Less :- Interest on long term debt	60,000	5.71%	51,000	3.78%
Profit before tax	2,70,000	25.71%	4,38,000	32.44%

Comment: (i) The PBT to net sales has increased from 25.7% in the year 2022-23 to 32.4% in the year 2023-24. It indicates that the profit earning capacity of the company has improved during the study period.

This improvement in the profitability of the company has been mainly due to significant reduction in the cost of goods sold of the company. It may occur due to fall down of input market or may occur due to improvement in the efficiency of the company. As other operating expenses has higher in 2023-24 so, it is clear that company has been operated with tight supervision, tight inventory control for reduction of COGS (Cost of Goods Sold).

(ii) The interest on long term debt to net sales has declined from 5.7% in the 2022-23 to 3.8% in 2023-24.

It implies that the financial burden of the company has reduced significantly during the study period.

Higher operating profit or fund from operation has been utilised for repayment of long term debt, so that the financial risk associated with the company has declined significantly during the study period.

(b) (i) Pre-merger EPS and P/E ratios of XYZ Ltd. and ABC Ltd.

Particulars	XYZ Ltd.	ABC Ltd.
Profit and taxes	₹ 4,00,000	₹ 1,00,000
Number of shares outstanding	2,00,000	1,00,000
EPS (Earning after tax/No. of shares)	₹ 2	₹ 1
Market price per share	₹25.00	₹ 12.50
P/E Ratio (times) (MPS÷EPS)	12.50	12.50

(ii)

Particulars	XYZ	ABC
If ABC PE is 8. Market Price		8.00
Exchange Ratio = Transferor Price / Transferee Price		0.32
Number of shares to be issued (Transferor's old Number of shares x Exchange Ratio)		32,000
Total New Shares (Transferee's Old number of shares + New shares issued)	2,32,000	
Total Earnings	5,00,000	
New EPS	2.16	

iii) Desired exchange ratio

Total number of shares in post-merged company $= \frac{\text{Post - merged earnings}}{\text{Pre - merger EPS of XYZ Ltd.}}$

$= \frac{5,00,000}{2}$

=2,50,000

Pre-merger EPS of XYZ Ltd. ₹2

Number of shares required to be issued = 2,50,000 – 200,000 = 50,000

the exchange ratio is = 50,000/ 1,00,000 = 0.50