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 also referred as the 'focal' company is supply chain management.

(A) Original equipment manufacturer
(B) Original band manufacturer
(C) Both (a) and (b)
(D) None of the above

(ii) The Top key performance indicators (KPIs) of the Order to Cash (O2C) are:

(A) Process cycle time
(B) Days sales outstanding (DSO)
(C) On-time delivery performance
(D) All of the above

(iii) According to Kaplan & Norton, which of the balanced scorecard perspectives serves as the focus of the other perspectives?

(A) Financial.
(B) Customer.
(C) Internal business processes.
(D) Learning & growth.

(iv) Given the following information for a business:
Asset turnover = 3.50
Equity multiplier = 1.00
Return on equity = 30%
Using the DuPont analysis, the net profit margin is _____

(A) 8.57%
(B) 5.87%
(C) 7.65%
(D) 6.75%

(v) ANINY LTD. earned free cash flow to Equity shareholders during the financial year ended-2024 at ₹5 lakh. If its cost of equity is 12% and free cash flow to Equity (FCFE) is expected to grow forever at 10%, what will be value of ANINY LTD. (using FCFE valuation approach)?

(A) ₹450 lakh
(B) ₹300 lakh
(C) ₹275 lakh
(D) None of the above

(vi) A company with PAT of ₹ 60 Crores, Tax Rate 30% plus a cess of 3%, Return on Equity is 20%, Other Equity ₹ 225 Crores, PAT of the Company is growing by 8% per year and equity share with a par value of ₹ 10 will have EPS of:

(A) ₹ 2
(B) ₹ 8
(C) ₹ 10
(D) Insufficient information

(vii) An investment is risk free when actual returns are always _____ the expected returns:

(A) Equal to
(B) Less than
(C) More than
(D) Depends upon circumstances

(viii) A firm has PAT of ₹33.6 lakh with extraordinary income of ₹ 6 lakh. Cost of capital is 20% and the applicable tax rate is 40%. The value of the firm is:

(A) ₹ 250 lakh
(B) ₹ 150 lakh
(C) ₹ 180 lakh
(D) ₹ 168 lakh

(ix) A Company's share is trading presently at ₹ 55 giving an annual return of 12.76%. Its beta is 0.98. If the risk free rate prevailing at present is 7.75% and the market rate of return is 16.25%, then the share is (Assume that in a stock market is efficient and CAPM works):

(A) Properly valued
(B) Undervalued
(C) Overvalued
(D) Nothing can be said as the information is not complete

(x) Price of a Callable bond =

(A) Price of an Option-free bond - Price of embedded call option

(B) Price of an Option-free bond + Price of embedded call option

(C) Price of Option-free bond + Price of Embedded Option

(D) None of the above

(b) Read the following scenario and answer the following questions:

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

Answer the following questions based on the above.

Choose the correct answer from the given four alternatives:

(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:

(a)

(i)	(ii)	(iii)	(iv)	(v)	(vi)	(vii)	(viii)	(ix)	(x)
C	D	A	A	C	B	A	B	C	A

(b)

(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 the advantages and benefits of Customer Relationship Management application. [7]

(b) Explain the various types of benchmarking, with a focus on how they are categorized based on the nature of the business and the specific practices or processes being benchmarked. [7]

Answer:

(a) Advantages and benefits of CRM:

Certainly a benefit for each company is to achieve better economic results thanks to achieving higher value from every interaction with a customer. Competition is very sharp in current

market. Companies must take care of a customer in every area of their specialization by using various communication channels. Customer expects perfect services whether he calls a help line, asks a dealer, browses a web site or personally visits a store. It is necessary to assure him in a feeling that he communicates with the same company whatever form of communication, time or place he chooses. According to Matusinska the basic advantages and benefits of CRM are these:

- 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
- proper selection of marketing tools (communication)
- trouble-free run of business processes
- greater number of individual contacts with customers
- more time for customer
- differentiation from competition
- real time access to information
- 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.
- fast and reliable predictions
- communication between marketing, sales and services
- increase in effectiveness of teamwork
- increase in staff motivation

(b) The four types of benchmarking classified according to the nature of the business they serve are enumerated below:

(i) Internal benchmarking: in which comparisons are made between various Department within the same organisation. For example, in an undergraduate college, the number of classes taken in a particular department, say English department may be compared with the Benchmark, say the Philosophy department, which is considered so as it is the best department in the college in terms of final result.

(ii) Competitive benchmarking: in which comparisons are made with direct competitors. For example, in XYZ College, the number of classes taken in a particular department, say

English department may be compared with the number of classes taken in the English department of MNK College both of which caters to same area and thus compete with each other regarding the number of students" admittance.

(iii) Industry benchmarking: in which the benchmarking partner is not a direct competitor, but does share the same industry as one's organisation. In the example cited in (b) above, if the colleges do not compete with each other regarding students' admittance, then the same is an example of industry benchmarking.

(iv) Generic benchmarking: Generic benchmarking broadly conceptualizes unrelated business processes or functions that can be practiced in the same or similar ways regardless of the Industry.

The four types of benchmarking categorized based on the specific practices or processes being benchmarked are aligned below:

(i) Product benchmarking: This is an age old practice of product oriented reverse engineering. Every organization buys its rival's products and tears down to find out how the features and performances etc., compare with its products. This could be the starting point for improvement.

(ii) Process benchmarking: Process benchmarking is a crucial first step. It constitutes comparing and analysing the business processes of an organisation with those processes that are considered the best practices in the industry.

(iii) Performance benchmarking:
Performance benchmarking involves gathering and comparing quantitative data (i.e., measures or key performance indicators). It compares performances; and

(iv) Strategic benchmarking: Strategic benchmarking is comparing improvements in strategic performance of an organisation to that of performance leaders in similar field of activity, in addition to comparing them to the past performance of the organisation itself.

3. (a) A firm has a demand function: $p = 12 - x^2$ and the total cost function: $C = -(4/3)x^3 + 4x^2 + 10$ where p = Price per unit (₹ '000) and x = Quantity demanded/produced (units in thousands). On the basis of the information given, answer the following:

(i) Examine that the firm is a monopolist firm.

(ii) Calculate the quantity the firm should produce to maximize profit. Also, calculate the amount of profit. [7]

(b) Describe the Risk Mapping? Explain the importance of Risk Mapping. [7]

Answer:

(a) (i) A monopolist firm is one that is having a negatively sloped or downward moving demand curve. We also know that a function is said to be having negative slope when its first derivative is negative. In this problem, dp/dx = -2 x. Since x cannot be negative, it means that derivative is negative; hence, it shows that the firm is a monopolist firm.

(ii) Profit Function (π) is Total Revenue -Total Cost and is defined below:

$\pi = p.x - c$

$\pi = (12x - x^3) - (-4/3x^3 + 4x^2 + 10)$

$d\pi/dx = (12 - 3x^2) - (-4x^2 + 8x)$

Putting the first derivative equal to zero, we get -

$(12 - 3x^2) - (-4x^2 + 8x) = 0$

$\rightarrow 12 - 3x^2 + 4x^2 - 8x = 0$

$\rightarrow x^2 - 8x + 12 = 0$

$\rightarrow x^2 - 6x - 2x + 12 = 0$

$\rightarrow (x - 2)(x - 6) = 0$

X = 2 or x = 6 (in '000 units)

Second order condition:

$d^2\pi/dx^2 = 2x - 8$

A function will be maximum when its second derivative is negative; and for x = 2, the above second derivative will be negative while for x = 6 it will be positive. The profit will be maximum when x = 2 (in '000 units). Putting the value of x = 2, in the profit function, we get Profit = 2/3 = 0.67 (` in '000) = ₹ 6,70,000.

(b) It is discussed in a previous section that CIMA theorized a generic framework for risk management of which risk assessment is a significant component. Risk mapping is an integrated part of risk assessment procedure. Risk mapping is the most frequent used tool of risk assessment. It is a listing of all the relevant risks that might affect the company, where each single risk is placed in a two-dimensional space: impact and probability of occurrence. It involves a matrix of likelihood/probability and impact/consequences.

The location of the risks in this space allows top management to reach a decision regarding which risks should be assumed and which risks should be hedged. It is the process of identifying, quantifying and prioritizing the risks that may interfere with the achievement of your organizational objectives.

A risk map is built by plotting the frequency, defined as how likely the risk is or how often risk will occur, on Y-axis and the severity, referred as how much of an impact it would have if it did occur, on the X-axis.

The fundamental aspect of a risk map is presented

Likelihood of Occurrence/ Frequency		
	Medium Risk	High Risk
	Low Risk	Medium risk
	Impact Severity	

Various exposures faced by the risks are assesses on the basis of the likelihood of occurrence (frequency) and its impact (severity). On the basis of the two dimensions and exposure is categorised as 'high risk' (high on both dimensions) or 'low risk' (low on both dimension). If an exposure is high on likelihood of occurrence and low on impact or low on likelihood of occurrence and high on impact then the risk map indicates 'medium risk'.

Importance of Risk Mapping

In the faculty of risk management, risk mapping is a very important tool for the following reasons:

- Understand the Risk Environment

  The process of risk management entails creating a bucket list of risk, referred as risk register, which the organisation faces. Depending on the scale and nature of operation, this list does become quite a handful. Risk mapping is beneficial because it categorises all the risk that the organisation is exposed to. The risks are categorised on the basis of its causes and the consequences of each risk. Thus it allows the organisation to look at the risk environment as a whole and comprehend the frequencies and severities with which the risks occur.

  Since a risk map is a simple visual tool it aids anyone in the organization with a helicopter view of the overall risk environment.
- Prioritize mitigation strategies

  Since for an organisation resources are always limited it is important to be strategic about mitigating risks which negatively impacts the resources. Risk mapping facilitates the process of risk mitigation. This prioritization method facilitates the risk manager to address the risks that have the most potential to cause harm to the organization.
- Reduce insurance costs

Developing risk maps can help organizations demonstrate a comprehensive, well-aligned risk management strategy to insurance companies and thus aids in creating favourable insurance premium structure;

- Other aspects

  There are some other advantages of the risk map which are mentioned in the below mentioned lines.

  - ✓ support collaboration between the organization's risk function and other functional departments, which have greater visibility.
  - ✓ encourage shared strategic decision-making on the basis of risk issues;
  - ✓ effectively focus on improving risk management and risk governance;
  - ✓ sharpen the enterprise's definition of its risk appetite and risk tolerance;
  - ✓ generate better integration of risk management activities across enterprise functions; and
  - ✓ give teams throughout the enterprise a common language for discussing risk.

4. (a) The following financial data for two years has been extracted from the Annual Report 2023-24 of one of the world's largest generic pharmaceutical companies having a strong presence in over 170 countries. Though the company's mission is — 'To be a leading global healthcare company which uses technology and innovation to meet every day needs of all patients', yet it also wants to keep its shareholders happy by giving them a fair rate of return. For gauging return for shareholders, the company is using Return on Equity (ROE) as one of the metrics of performance evaluation. Because of intense competition, in recent years, its ROE is under pressure and to maintain the level of ROE, the company is changing its business model — in that, it is varying its margins, assets utilization and leverage.

Use suitable DU PONT Analysis by using the financial data given below.

Critically assess how the ROE of the company is changing due to its margins, assets utilization and leverage over a period of two years. Evaluate the change in these parameters and Recommend your comments accordingly

(₹ In Lakh)

Statement of Profit and Loss	2023	2024
Relevant financial data		
Total Revenue	**7,125.80**	**8,431.55**
Profit before Tax	**1,421.46**	**2,011.86**
Profit after Tax	**1,123.96**	**1,507.11**
Dividend	**160.58**	**160.58**
Tax on Dividend	**26.05**	**27.29**

Retained Earnings	**937.32**	**1,319.24**

(₹ In Lakh)

Balance Sheet	2023	2024
ASSETS:		
Fixed Assets	**3,346.11**	**3,768.63**
Investments (Current and Non-Current)	**1,035.15**	**2,601.82**
Other Net Assets (Current and Non-Current)	**3,413.67**	**3,746.08**
Total	**7,794.93**	**10,116.53**
EQUITY AND LIABILITIES:		
Share Capital	**160.58**	**160.58**
Reserves and Surplus	**7,389.70**	**8,708.94**
Net Worth	**7,550.28**	**8,869.52**
Loan Funds (Current and Non-Current)	**12.20**	**965.81**
Other Current Liabilities	**232.45**	**281.20**
Total	**7,794.93**	**10,116.53**

[7]

(b) The following financial data related to the Balance Sheet of Vedisha Ltd. a public listed large manufacturing company as at March 31, 2024, has been extracted from the Annual Report 2023-24:

Assets	(Amount in ₹ lakh)
Non-Current Assets	
(a) Property, Plant and Equipment	**1,620**
(b) Other Assets	**140**
Total Non-Current Assets	**1,760**
Current Assets	
(a) Inventories	**305**
(b) Financial Assets	
(i) Investment	**250**
(ii) Trade Receivables	**245**
(iii) Cash and Cash Equivalents	**125**
(c) Other Assets	**80**
Total Current Assets	**1,005**
Total Assets	**2,765**

1. Equity And Liabilities Shareholders Fund:	
(a) Equity Share Capital (₹10 each)	**500**
(b) Reserve and Surplus	**1,250**
Total Equity	**1,750**
2. Non-Current Liabilities	
(a) Financial Liabilities	
- Borrowings	**600**
(b) Provisions	**10**
(c) Other liabilities	**80**
Total Non-Current Liabilities	**690**
3. Current Liabilities	
(a) Financial Liabilities	
(i) Borrowings	**-**
(ii) Trade Payables	**195**
(b) Provisions	**10**
(c) Other liabilities	**120**
Total Current Liabilities	**325**
Total Equity and Liabilities	**2,765**

Additional Information:

(i) Net sales for 2023-24 were ₹ 3,050 lakh.

(ii) Operating profit of the company for the year was ₹ 585 lakh.

(iii) Market value of each equity share is ₹ 16 on the stock exchange.

Using the above information provided and discriminant function developed by Altman, Calculate Z-Score of Vedisha Ltd. and Illustrate your assessment of the company's financial condition. [7]

Answer:

(a)

DU PONT ANALYSIS...	**2023**	**2024**
Net Profit Ratio	15.77%	17.87%
Assets Turnover Ratio	0.914	0.833
Assets to Equity Ratio	1.032	1.141
Return on Equity	14.88%	16.98%

The Return on Equity (ROE) has increased in 2024 from 14.88% to 16.98% and the main reasons for the increase are- margin and leverage which have increased but due to lower assets utilization ROE has not increased by its full potential. If the Company concentrates on better utilization of the assets, its ROE will further improve.

Working Notes:

ROE=Net Profit Margin × Asset Turnover × Equity Multiplier

Where:

Net Profit Margin = Net Profit / Total Revenue

Asset Turnover = Total Revenue / Total Assets

Equity Multiplier (Leverage) = Total Assets / Equity

1. **Net Profit Margin**
   - 2023: 1123.96 /7125.80 =0.1577 or 15.77%
   - 2024: 1507.11/8431.55= =0.1787 or 17.87%

2. **Asset Turnover Ratio**

   Total Assets$_{2023}$=7794.93,

   Total Revenue$_{2023}$=7125.80

   Asset Turnover$_{2023}$=7125.80/7794.93 =0.914

   Total Assets$_{2024}$=10116.53,

   Total Revenue$_{2024}$=8431.55

   Asset Turnover$_{2024}$=8431.55/10116.53=0.833

3. **Equity Multiplier (Leverage)**

   Equity$_{2023}$=7550.28,

   Total Assets$_{2023}$=7794.93

   Equity Multiplier$_{2023}$=7794.93/7550.28=1.032

   Equity$_{2024}$=8869.52,

   Total Assets$_{2024}$=10116.53

   Equity Multiplier$_{2024}$=10116.53/8869.52=1.141

   2023:

   ROE$_{2023}$=15.77%×0.914×1.032= 14.88%

   2024:

   ROE$_{2024}$=17.87%×0.833×1.141= 16.98%

(b) As per Z-score model of Altman (1968) which is developed for public listed large manufacturing companies we have

$Z = 1.2x_1 + 1.4x_2 + 3.3x_3 + 0.6x_4 + 1.0x_5$

Here, the five variables are as follows: (₹ In lakh)

X_1 = Working Capital to Total assets = 680/2765= 0.246

X_2 = Retained earnings to total assets = 1250/2765 = 0.452

X_3 = EBIT to Total assets = 585 / 2765= 0.212

X_4 = Market Value of Equity to Book Value of Total debts = 800/1050 = 0.788

X_5 = Sales to total assets = 3050/ 2765 = 1.103 times

Hence, Z Score = (1.2 x 0.246) + (1.40 x 0.452) + (3.3 x 0.212) + (0.6 x 0.788) + (1×1.103)
= 0.2952 + 0.6328 + 0.6996 + 0.4728 + 1.103 = 3.2034

Note:

(Amount in ₹ Lakh)

1. Working Capital: Current Assets -Current Liabilities (1005-325)	=	680
2. Total Assets = (1760 + 1005)	=	2765
3. Retained Earnings	=	1250
4. EBIT (Operating Income)	=	585
5. Market Value of Equity (500/10*16)	=	800
6. Total Debt = (690 + 325)	=	1015
7. Sales	=	3050

Comment:

As the calculated value of Z- Score (3.2034) is much higher than 2.99, it can be strongly predicated that the company (Vedisha Ltd.) is a non-bankrupt company (i.e. non-failed company).

5. (a) ATTL Ltd. and STTL Ltd. are in the same risk class and are similar in every respect except that ATTL Ltd. is a levered firm, while STTL Ltd. is unlevered, ATTL Ltd. has ₹ 12,00,000 debentures worth carrying 12% rate of interest. Both the firms earn 18% before interest and taxes on their total assets of ₹ 22 lakh. Assuming a tax rate of 50% and a capitalization rate of 14% for the unlevered firm.

Calculate the value of both the firms using Net Income approach. [7]

(b) P Ltd. is considering buying the business of Q Ltd., the final accounts of which for the last 3 years ended 31st December is:

(Figures in ₹)

Particulars	2022	2023	2024
Sales	2,00,000	1,90,000	2,24,000
Material Consumed	1,00,000	95,000	1,12,000
Business Expenses	80,000	80,000	82,000
Depreciation	12,000	13,000	14,000
Net Profit	8,000	2,000	16,000

Balance Sheet as at 31st December

(Figures in ₹)

Particulars	2021	2022	2023	2024
Fixed Asset (at cost)	1,00,000	1,20,000	1,40,000	1,80,000
Less: Depreciation	70,000	82,000	95,000	1,09,000
	30,000	38,000	45,000	71,000
Stock-in-trade	16,000	17,000	18,500	21,000
Sundry Debtors	21,000	24,000	26,000	28,000
Cash in hand and Bank	32,000	11,000	28,000	13,200
Prepaid Expenses	1,000	500	2,000	1,000
Total Assets	1,00,000	90,500	1,19,500	1,34,200
Equity Capital	50,000	50,000	70,000	70,000
Share Premium	-	-	5000	5,000
General Reserve	16,000	24,000	26,000	42,000
Debentures	20,000	-	-	-
Sundry Creditors	11,000	13,000	14,000	14,000
Accrued Expenses	3,000	3,500	4,500	3,200
Total Liabilities	1,00,000	90,500	1,19,500	1,34,200

P Ltd. wishes the offer to be based upon trading cash flows rather than book profits. Trading Cash Flow means Cash received from Debtors less Cash Paid to Creditors and for Business Expenses excluding Depreciation, together with an allowance for average annual expenditure on Fixed Assets of ₹15,000 per year.

The actual expenditure on Fixed Assets is to be ignored, as is any cash receipt or payment out on the issue or redemption of Shares or Debentures. P Ltd. wishes the Trading Cash

Flow to be calculated for each of the years 2022, 2023 and 2024 and for these to be combined using weights of 25% for 2022, 35% for 2023 and 40% for 2024 to give an Average Annual Trading Cash Flow. P Ltd. considers that the Average Annual Cash Flow should show a return of 10% on its investment.

Calculate:

(i) Trading Cash Flow for each of the years 2022, 2023 and 2024

(ii) Weighted Average Annual Trading Cash Flow and

(iii) Value of the business. **[7]**

Answer:

(a)

Particulars	Levered Firm (₹)	Unlevered Firm (₹)
EBIT (18% of ₹22 lakh)	3,96,000	3,96,000
Less: Interest	1,44,000	
Taxable Income	2,52,000	3,96,000
Earnings for equity holders	2,52,000	3,96,000
Equity capitalization rate (Ke)	14%	14%
Market value of equity	18,00,000	28,28,571
Market value of debt	12,00,000	0
Total value of firm	30,00,000	28,28,571

(b)

Particulars	2022 (₹)	2023 (₹)	2024 (₹)	(₹)
Net Profit as per Profit & Loss A/c	8,000	2,000	16,000	
Add: Depreciation	12,000	13,000	14,000	
Operating Cash Flows before Working Capital Changes	20,000	15,000	30,000	
Adjustment for Working Capital Changes				
(a)Change in Stock	(1,000)	(1,500)	(2,500)	
(b) Change in Debtors	(3,000)	(2,000)	(2,000)	
(c) Prepaid Expenses	500	(1,500)	1,000	
(d) Sundry Creditors	2,000	1,000	-	
(e) Accrued Expenses	500	1,000	(1,300)	
Cash Generated from operations	19,000	12,000	25,200	
Less: Allowance for Expenditure on Fixed Assets	(15,000)	(15,000)	(15,000)	
Trading Cash Flow	4,000	(3,000)	10,200	

Weights	25%	35%	40%	
Weighted Trading Cash Flow	1,000	(1,050)	4,080	
Weighted Average Cash Flow				4,030
Capitalization Rate				10%
Value of Business				40,300

6. (a) Calculate the value of equity share of Rama & Company Ltd. which is listed on stock exchange, from the following information:

Equity share capital (₹ 20 each) ₹ 50,00,000
Reserves and Surplus ₹ 5,00,000
15% Secured loans ₹ 25,00,000
12.5% Unsecured loans ₹ 10,00,000
Fixed Assets ₹ 30,00,000
Investment ₹ 5,00,000
Operating Profit ₹ 25,00,000
Corporate Tax Rate 25% (including all)
Price Earnings Ratio 12.5
Support your answer with complete workings. **[7]**

(b) From the following information concerning Nebula Ltd., Calculate EVA for the year ended 31st March 2024:

Summarized Profit and Loss Account for the year ended 31st March 2024

Particulars	Amount (₹)	Amount (₹)
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 (PBT)		**2,50,000**
Tax 40%		**1,00,000**
Profit after tax		**1,50,000**

Summarized Balance Sheet as on 31st March 2024

Particulars	2024 (₹)
Equity and Liabilities:	
Shareholders' 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%. **[7]**

Answer:

(a) In the given situation, the value of the share can be ascertained on the basis of earnings of the firm and price-earnings multiple as follows:

Value = EPS × P/E ratio

The P/E ratio is given and the EPS may be ascertained as follows:

EBIT (Operating profit)		₹ 25,00,000
Less: Interest on secured loans (15%)	₹ 3,75,000	
Interest on Unsecured Loans(12.5%)	₹ 1,25,000	5,00,000
EBT		20,00,000
Less: Tax 25%		5,00,000
EAT		15,00,000
Number of equity shares (₹ 50 lakh/20) = 2,50,000		
EPS = 15,00,000/2,50,000		= ₹ 6
Value of share = 6 ×12.5		= ₹ 75

(b)

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 = 1,71,600 /6,40, 000*100 = 26.81%

Calculation of WACC:

K_d = 36,000/6, 40,000 *(1- 0.40) = 3.38%

K_e = 12%/6, 40, 000*4,00, 000=7.50%

WACC = (3.38 + 7.50%) = 10.88 %

EVA = (26.81% - 10.88%) × 6,40,000 = ₹1,01,952.

7. (a) A Ltd., is considering the acquisition of B Ltd., with stock. Relevant financial information is given below:

Particulars	**A Ltd.**	**B Ltd.**
Present earnings (₹)	**7.5 Lakhs**	**2.5 Lakhs**
Equity (no. of shares)	**4.0 lakhs**	**2.0 Lakhs**
EPS (₹)	**1.875**	**1.25**
P/E ratio	**10**	**5**

Answer the following questions:

(i) Calculate the market price of each company?

(ii) Calculate the market Capitalization of each company?

(iii) If the P/E of A Ltd., changes to 7.5. Calculate the market price of A Ltd.?

(iv) Does market value of A Ltd., change?

(v) Advise, what would be the exchange ratio based on Market Price? (Take the revised price of A Ltd.) [7]

(b) The shareholders of A Co. Ltd., have voted in favour of a buyout offer from B Co. Ltd. Information about each firm is given here below. Moreover, A Co. Ltd.'s shareholders will receive one share of B Co. Ltd. Stock for every three shares they hold in A Co. Ltd.

Particulars	B Co. Ltd.	A Co. Ltd.
Present earnings (in ₹)	6.75	3.00
EPS (in ₹)	3.97	5.00
Number of share (Lakhs)	1.70	0.60
P/E ratio	20	5

(i) **Calculate the EPS of B Co. Ltd., after the merger? Calculate the PE ratio if the NPV of the acquisition is zero?**

(ii) **Evaluate, what B Co. Ltd. might consider to be the value of the synergy between the firms? [7]**

Answer:

(a) (i) P/E = Market Price/EPS.
Therefore, we have, Market Price = P/E x EPS
A Ltd.'s Market Price = 10 x 1.875 = ₹ 18.75.
B Ltd.'s Market Price = 5 x 1.25 = ₹ 6.25.

(ii) Market Capitalization (same as market value or in short referred to as market cap)
= Number of outstanding shares x market price
A Ltd.'s Market cap = 4.0 lakhs x ₹18.75 = ₹75 Lakhs.
B Ltd.'s Market cap = 2.0 Lakhs x ₹ 6.25 = ₹ 12.5 Lakhs.

(iii) If the P/E of A Ltd., changes to 7.5, then the market price is given by = 7.5 x ₹1.875 = ₹14.0625.

(iv) Yes. The market value decreases, i.e., = A Ltd.'s market value = 4.0 lakhs x ₹14.0625 = ₹56.25 Lakhs.

(v) General Formula for exchange ratio = MPS of Target Firm / MPS of acquiring Firm = 6.25/14.0625 = 0.44.

(b) (i) The EPS of the combined company will be the sum of the earnings of both companies divided by the shares in the combined company. Since the stock offer is one share of the acquiring firm for three shares of the target firm, new shares in the acquiring firm will increase by one-third (Exchange ratio = 1/3)

So, the new EPS will be = (₹ 3,00,000 + 6,75,000) / [1,70,000 + (1/3)(60,000)] = (9,75,000/1,90,000) = ₹ 5.132.

The market price of B Co will remain unchanged if it is a zero NPV acquisition. Using the P/E ratio, we find the current market price of B. Co stock, which is = P/E x EPS = 20 x (6.75 lakhs / 1.70 lakhs) = 20 x (3.97) = ₹79.40

(ii) If the acquisition has a zero NPV, the stock price should remain unchanged. Therefore, the new P/E will be = P/E= ₹79.40 / ₹5.132 = 15.47.

If the NPV of the acquisition is zero, it would mean that B Co. would pay just the market value of A Co. i.e., Number of shares x market price of A Co. i.e., = 60,000 x 25 (MPS = P/E x EPS = 5 x 5 =25)

The market value received by B Co. = ₹ 15,00,000.

The cost of the acquisition is the number of shares offered times the share price, so the cost is = (1/3) (60,000) (₹79.40) = ₹ 15,88,000.

The difference is synergy i.e., ₹88,000.

8. (a) The Balance Sheets of Maras Ltd. for the years ended on 31.03.2023 and 31.03.2024 are as follows:

(Amount in ₹ Lakh)

	As at 31.03.23	As at 31.03.24
Equity & Liabilities		
Shareholder's Fund:		
Share capital	**696.60**	**726.70**
Equity Share suspense	**30.07**	**—**
Equity Share warrants	**—**	**841.20**
Reserve & Surplus	**31,256.89**	**39,156.40**
Non-Current Liabilities:		
Secured Loans	**4,784.56**	**3,300.09**
Unsecured Loans	**9,128.31**	**14,939.75**
Deferred Tax liabilities	**3,491.00**	**3,936.27**
Current Liabilities:		

Other current liabilities	**8,432.77**	**10,522.73**
Provisions	**856.44**	**1,496.31**
	58,676.64	**74,919.45**
Assets		
Non-current assets	—	—
Fixed Assets (Net)	**31,830.23**	**30,941.81**
Capital work in progress	**3,764.07**	**11,502.92**
Non-Current Investment:		
Investment	**8,125.67**	**11,031.80**
Current Assets:		
Inventories	**6,068.25**	**7,123.77**
Trade receivables	**1,866.21**	**3,113.79**
Cash and bank balance	**917.68**	**2,140.03**
Other current assets	**1.53**	**36.27**
Loans and advances	**6,103.00**	**9,029.06**
	58,676.64	**74,919.45**

(i) Classify, how would you make the Common-Size Balance Sheet of Maras Ltd.?

(ii) Interpret your observations on the common-size Balance Sheet. [7]

(b) R Ltd. is intending to acquire S Ltd. (by merger) and the following information are available in respect of both the companies:

Particulars	R Ltd.	S Ltd.
Total Current Earnings (₹)	2,50,000	90,000
No. of Outstanding Shares	50,000	30,000
Market Price per Share (₹)	21	14

(i) Calculate the present EPS of both the companies?

(ii) If the proposed merger takes place, calculate the new earnings per share for R Ltd. (assuming the merger takes place by exchange of Equity Shares and the Exchange Ratio is based on the Current Market Price)? Assume no synergy impact. [7]

Answer:

(a) (i) Common Size Balance Sheet of Maras Ltd. (₹ in lakhs)

	As at 31.03.2023	% of Total	As at 31.03.2024	% of Total
Equity & Liabilities				

Shareholders' Fund:				
Share Capital	696.60	1.187	726.70	0.970
Equity share suspense	30.07	0.051	-	-
Equity share warrants	-	-	841.20	1.123
Reserve and surplus	31256.89	53.270	39156.40	52.265
Non-current liabilities:				
Secured loans	4784.56	8.154	3300.09	4.405
Unsecured loans	9128.31	15.557	14939.75	19.941
Deferred tax liabilities	3491.00	5.950	3936.27	5.254
Current Liabilities:				
Other current liabilities	8432.77	14.372	10522.73	14.045
Provisions	856.44	1.460	1496.31	1.997
	58676.64	100.00	74919.45	100.00
Assets:				
Non-current Assets:				
Fixed assets (Net)	31830.23	54.247	30941.81	41.300
Capital work in progress	3764.07	6.415	11502.92	15.354
Investments	8125.67	13.848	11031.80	14.725
Current assets:				
Inventories	6068.25	10.342	7123.77	9.509
Trade Receivables	1866.21	3.180	3113.79	4.156
Cash and bank balance	917.68	1.564	2140.03	2.856
Other current assets	1.53	0.003	36.27	0.048
Loan and advances	6103.00	10.401	9029.06	12.052
	58676.64	100.00	74919.45	100.00

(ii) Analysis and presentation of observations:

1. The proportion of unsecured loans to total of balance sheet has increased from 15.56% to 19.94%.
2. The proportion of secured loans to total of balance sheet has fallen from 8.15% to 4.405% due to redemption of non-convertible debentures and repayment of term loans
3. The reserves and surplus have stayed nearly flat having marginally reduced from 53.27% at the end of year 31/03/2023 to 52.27% at end of year 31/03/2024.
4. Although the proportion of current liabilities in total share capital and liabilities has decreased from 14.37% to 14.05% but provisions have slightly increased from

1.46% to 2.00%

5. The deferred tax liabilities have decreased from 5.95% to 5.25%
6. The proportion of net fixed assets have fallen from 54.25% to 41.3%
7. The capital work-in-progress has increased from 6.42% to 15.35%.
8. The investments have increased by nearly 1% over the previous accounting year.
9. The current assets other than loans and advances, have increased from 15.09% to 16.57.
10. The loans and advances have increased from 10.4% to 12.05%.

(b) (i) EPS = Total earnings /No. of Equity shares

$EPS_{RLtd.}$ = ₹ 2,50,000/50,000 = ₹5.

$EPS_{S\ Ltd.}$ = ₹ 90,000/30,000 = ₹3.

(ii) No. of shares S Ltd., shareholders will get in R Ltd., based on market prices of shares is as follows:

Exchange Ratio= 14/21 = 2/3 i.e., for every 3 shares of S Ltd., 2 Shares of R Ltd.,

Total No. of shares of R Ltd., issued= (14/21) × 30,000 = 20,000 shares.

Total number of shares of R Ltd., after merger = 50,000+20,000 = 70,000.

Total earning of R Ltd., after merger = ₹2,50,000 + ₹ 90,000 = ₹ 3,40,000 (No synergy given)

The new EPS of R Ltd., after merger = ₹3,40,000/70,000 = ₹4.86.