

SUGGESTED ANSWERS

SECTION – A

1.

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

SECTION – B

2. (a)

Customer Relationship Management (CRM) & its Objective :

Customer Relationship Management (CRM) is a strategy and technology used by businesses to manage interactions with current and potential customers.

Its primary objective is to improve customer satisfaction, enhance customer retention, and drive sales growth by understanding and addressing customer needs more effectively.

Five misrepresentations of CRM:

CRM is often misunderstood or misrepresented in business contexts. These misrepresentations can lead to poor implementation, wasted involvement and unmet expectations. Here are five common misrepresentations of CRM:

- (i) **CRM is merely a database marketing** - The scope of CRM is much broader than database marketing. Though the success of CRM depends much on the database, strategic and operational CRM is not merely database marketing.
- (ii) **CRM is a marketing process** - The scope of CRM extends beyond the nuances of marketing activities of market segmentation, customer acquisition, customer retention and customer development. CRM extends into selling and service functions.
- (iii) **CRM is an information technology (IT) issue** - Without the advent of IT, CRM would not be possible. IT may be said to be an enabler of CRM. However, the two other important parts of most CRM projects are people and process while the architecture on which it is developed is IT.

- (iv) **CRM can be implemented by any company** - Though strategic CRM and operational CRM can be implemented in any company, implementation of analytical CRM is not possible in all companies. Analytical CRM is based on customer-related data and in smaller companies or companies in which such customer related data are not readily available implementation of the same is not possible.
- (v) **CRM is a technical name of loyalty schemes**- in order to acquire new customers or retain old customers, business houses often offer loyalty schemes like air miles and lunch coupons and free train fare passages. These are redeemed by the customer in future. These are distributed to loyal customers. Some CRM implementations are linked to loyalty schemes, not all of them are and it would not be wise to intermingle the two concepts. Rather loyalty schemes are a subset of the CRM implemented company wide.

2. (b)

(i) **Evaluation of Management's View**

The management's proposition that Lean is exclusively about waste management is a myth. The fundamental aspect of lean manufacturing is to create highly efficient production processes rather than just managing waste.

The three core areas of lean manufacturing are :

- Eliminating waste
- Minimizing inconsistencies
- Taking a reasonable approach

(ii) **The '5S' Methodology Framework**

The 5S methodology utilizes five Japanese terms to assist in the organization of manufacturing and create a workplace suited for visual control. The components are :

- Seiri (Sort) : To separate needed tools, parts, and instructions from unneeded materials and to remove the unneeded ones.
- Seiton (Set in Order) : To neatly arrange and identify parts and tools for ease of use.
- Seiso (Shine) : To conduct a rigorous clean-up campaign across the workspace.
- Seiketsu (Standardize) : To conduct seiri, seiton, and seiso daily to maintain a workplace in perfect condition.
- Shitsuke (Sustain) : To form the discipline and habit of always following the first four S's.

(iii) **Benefits of the Lean 5S Program**

By implementing the 5S program, Prime Auto Components Ltd. can achieve several operational and strategic advantages :

- Improved workplace safety
- Higher equipment availability
- Lower defect rates
- Reduced operational costs
- Increased production agility and flexibility
- Improved employee morale
- Better asset utilization
- Enhanced enterprise image to customers, suppliers, employees, and management.

3. (a)

$$\text{Selling Price per unit (p)} = 1,200 - 2\chi$$

$$\text{Output} = \chi \text{ units}$$

$$\text{Total Revenue (R)} = P \times \chi$$

$$R = (1200 - 2\chi) \chi = 1200\chi - 2\chi^2$$

$$\text{Total Cost (C)} = 3\chi^2 + 200\chi + 15000$$

$$\text{Profit (Z)} = \text{Total Revenue (R)} - \text{Total Cost (C)}$$

$$Z = (1200\chi - 2\chi^2) - (3\chi^2 + 200\chi + 15000)$$

$$Z = 1000\chi - 5\chi^2 - 15000$$

To find the optimum output, the first derivative of the profit function with respect to χ must be zero

$$\frac{dz}{d\chi} = \frac{d(1000\chi - 5\chi^2 - 15000)}{d\chi} = 1000 - 10\chi$$

$$\text{Setting } \frac{dz}{d\chi} = 0$$

$$1000 - 10\chi = 0$$

$$10\chi = 1000$$

$$\chi = 100 \text{ units}$$

$$\frac{d^2z}{d\chi^2} = -10$$

Since $\frac{d^2z}{d\chi^2}$ is negative, the profit is maximized at $\chi = 100$ units.

- (i) Optimum number of components :
The company should produce and sell 100 units.

- (ii) **Selling price at optimum level :**
Substitute $\chi = 100$ into the demand function.
 $p = 1200 - 2(100)$
 $p = 1200 - 200 = ₹ 1000 \text{ per unit}$

- (iii) **Maximum Profit :**
Substitute $\chi = 100$ into the profit function (Z).
 $Z = 1000(100) - 5(100)^2 - 15000$
 $Z = 100000 - 50000 - 15000$
 $Z = ₹ 35000$

Alternative Solution:

- (i) Given : Total Cost (C) = $3\chi^2 + 200\chi + 15000$
Selling price per unit (P)
The demand function : $P = 1200 - 2\chi$
The Quantity produced / Sold = χ units.
Total Revenue (R) = $P \times \chi = (1200 - 2\chi) \times \chi$
 $= 1200\chi - 2\chi^2$

$$\text{Marginal Revenue (MR)} = \frac{dR}{d\chi} = \frac{d}{d\chi} (1200\chi - 2\chi^2) = 1200 - 4\chi$$

$$\begin{aligned}\text{Marginal Cost (MC)} &= \frac{dC}{d\chi} = \frac{d}{d\chi} (3\chi^2 + 200\chi + 15000) \\ &= 6\chi + 200\end{aligned}$$

Profit Maximum at MC = MR

So, MC = MR

$$6\chi + 200 = 1200 - 4\chi$$

$$\text{Or, } 10\chi = 1000$$

$$\text{Or, } \chi = \frac{1000}{10} = 100 \text{ Units}$$

The Optimum number of Components should produce and sell to Maximize its Profit is 100 units.

(ii) Selling price at optimum Level :

Substitute $\chi = 100$ into the demand function : P

$$P = 1200 - 2(100) = ₹ 1000$$

(iii) Maximum Profit :

Substitute $\chi = 100$ into $(1200\chi - 2\chi^2 - 3\chi^2 - 200\chi - 15000)$

$$(1000\chi - 5\chi^2 - 15000)$$

$$\text{So, } 1000 \times 100 - 5(100)^2 - 15000$$

$$= 100000 - 50000 - 15000$$

$$= ₹ 35000$$

3. (b)

Risk Management is much more than mere safety, it also provides opportunity to grow. It is the process of identifying, evaluating, and prioritizing risks followed by integrated and economical application of resources to reduce, observe, and control the probability or impact of unforeseen events or to maximize the realization of opportunities.

The process of risk management embrace five specific steps ;

- (i) Identification of Risk** – risk should be identified before it is managed. For the purpose, the risk of the enterprise needs to be Categorised in Silos.
- (ii) Analyse the Risk** – after identification of the risk the task of the risk manager is to look into the nature, magnitude and consequence of the risk. During this step, the risk management team will examine the probability of occurrence and consequence of each risk in order to identify the focus area. Factors such as possible financial loss, time lost, and severity of impact play a part in precisely analyzing each risk. By placing each risk under the microscope, the risk manager exposes any common issues across a project and further improve the risk management process for future projects.
- (iii) Prioritize the risk** – an organisation is exposed to various forms of risk. On the basis of the analysis undertaken in step 2 the risk manager has to prioritize which risk to focus when. This step gives the risk manager a comprehensive view of the task at hand and pinpoints where the team's focus should lie. This helps identification of useful solutions for each risk.

- (iv) **Mitigate the risk** – after prioritization of the risk, which assist risk manager to focus which risk to target upon, he attempts mitigating the particular risk. Starting with the highest priority risk first, the risk management team under the guidance of the risk manager delves in eliminating the risk or at least reducing the risk so that the negative impact is minimised and the strategic goal can be accomplished.
- (v) **Monitor the risk** – risk management is a continuous process and it is very important that risk along with the measures adopted in step four is monitored. For this transparent communication among the risk manager and the stakeholders is crucial.

4. (a)

The 5-Component DuPont analysis is an improvement over the three component analysis which separates operating preference from financing and tax impacts. In this case, the ROE is segregated into five components which provide information on five aspects of profitability. Thus this analysis helps in determining the true source of company's profitability.

The identity is presented as;

$$\text{ROE} = \text{Operational Efficiency} \times \text{Interest Burden on Earnings} \times \text{Tax burden on earnings} \times \text{Asset Utilization} \times \text{Equity Multiplier (Financial leverage)}.$$

The impact of operational efficiency (measured in terms of net margin), asset utilization (measured in terms of asset turnover) and financial leverage (measured in terms of the equity multiplier) is comprehended through the 3-component analysis. Two additional aspects, the effect of interest on earning and the effect of tax on earnings, which are also the components of ROE, are deliberated in the 5-Component Analysis.

The above identity is represented through five ratios, given below :

$$\text{ROE} = (\text{EBIT} / \text{Sales}) \times (\text{EBT} / \text{EBIT}) \times (\text{EAT} / \text{EBT}) \times (\text{Sales} / \text{Total Assets}) \times (\text{Total Assets} / \text{Equity})$$

(EBIT / Sales) = This is approximation of the net margin. Here earnings before interest and taxed (EBIT) is used as an approximation of the net profit, used in the 3-Component framework EBIT is calculated by adjusting net profit. This shows the operational efficiency of the firm.

(EBT / EBIT) = This component is an addition in the 5-component framework. Earnings before taxes (EBT) is mapped against the EBIT. This component shows the impact of interest burden on the earnings of the firm, if this ratio is one, it implies zero interest burden which further implies that there is no debt in the capital structure (All Equity Firm).

(EAT / EBT) = This is the third component in the 5-Component framework. Earnings after taxes (EAT) is mapped against EBT. This component shows the impact of tax burden on the earnings of the firm.

(Sales / Total Assets) = This component was previously dealt with, in the discourse on the 3-component framework. This shows the return generated in terms of the asset base of the firm. The issue of asset utilization is addressed in this ratio.

(Total Assets / Equity) = This component was also previously dealt with, in the discourse on the 3-component frame. This ratio is referred as the equity multiplier and is an approximation of the financial leverage. If the ratio is one, it implies that all of the assets is sourced from equity and there is no debt component.

4. (b)

From the given Particulars the Altman Z-Score for Lotus Inc. is as follows:

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 0.999 X_5$$

Where :

$$X_1 = (\text{Working Capital} / \text{Total Assets}) = (10,00,000 / 10,00,000) = 1$$

$$X_2 = (\text{Retained Earnings} / \text{Total Assets}) = (5,00,000 / 10,00,000) = 0.5$$

$$X_3 = (\text{Earnings before Interest and Taxes} / \text{Total Assets}) = (7,50,000 / 10,00,000) = 0.75$$

$$X_4 = (\text{Market Value of Equity} / \text{Book Value of Total Liabilities}) = (15,00,000 / 10,00,000) = 1.5$$

$$X_5 = (\text{Sales} / \text{Total Assets}) = (12,00,000 / 10,00,000) = 1.2$$

Therefore, Altman Z-Score (Z) is given as:

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 0.999 X_5$$

$$Z = 1.2 \times 1 + 1.4 \times 0.5 + 3.3 \times 0.75 + 0.6 \times 1.5 + 0.999 \times 1.2$$

$$Z = 6.4738$$

The inference of the model which states that Z Score above three indicates that the company under consideration is financially healthy.

From the given particulars the Altman Z-Score for Woodex Inc. is as follows:

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 0.999 X_5$$

Where :

$$X_1 = (\text{Working Capital} / \text{Total Assets}) = (20,00,000 / 12,00,000) = 1.67$$

$$X_2 = (\text{Retained Earnings} / \text{Total Assets}) = (9,50,000 / 12,00,000) = 0.79$$

$$X_3 = (\text{Earnings before Interest and Taxes} / \text{Total Assets}) = (7,50,000 / 12,00,000) = 0.625$$

$$X_4 = (\text{Market Value of Equity} / \text{Book Value of Total Liabilities}) = (18,00,000 / 12,00,000) = 1.5$$

$$X_5 = (\text{Sales} / \text{Total Assets}) = (15,00,000 / 12,00,000) = 1.25$$

Therefore, Altman Z-Score (Z) is given as:

$$Z = 1.2 X_1 + 1.4 X_2 + 3.3 X_3 + 0.6 X_4 + 0.999 X_5$$

$$Z = 1.2 \times 1.67 + 1.4 \times 0.79 + 3.3 \times 0.625 + 0.6 \times 1.5 + 0.999 \times 1.25$$

$$Z = 7.32125$$

The inference of the model which states that Z Score above three indicates that the company under consideration is financially healthy.

Advice :

Comparing the Z Scores of Two Companies Lotus Inc. and Woodex Inc. the advice to Mr. Hajime is that both the companies have pretty good scores and are considered to be financially healthy since Z score of both the companies under consideration is substantially higher than three.

$$Z \text{ Lotus Inc.} = 6.4738$$

$$Z \text{ Woodex Inc.} = 7.32125$$

However, there is a slight difference in the scores and from the above it is clear that Z Woodex Inc. > Z Lotus Inc. Thus, advice to Mr. Hajime is that though both the companies are in the safe zone as regards to bankruptcy risk it may be stated that Woodex Inc. is slightly safer company to invest than Lotus Inc. as projected by Altman Z Score.

5. (a)

If construction is done this year :

	8-unit Building	12-unit Building
Value of apartment @ ₹20 lakh each	₹ 160 lakh	₹ 240 lakh
Cost of construction	₹ 90 lakh	₹ 120 lakh
Net Value	₹ 70 lakh	₹ 120 lakh

Since Net Value of 12-unit building is more, the same is preferable.

If construction is done after one year

Expected selling price next year = $(26 \times 0.70 + 16 \times 0.30) = ₹ 23$ lakh per apartment.

Calculation of present value of Cash flow :

	8-unit Building	12-unit Building
Value of apartment @ ₹23 lakh each	₹ 184 lakh	₹ 276 lakh
Cost of construction	₹ 90 lakh	₹ 120 lakh
Net Value	₹ 94 lakh	₹ 156 lakh
PV of Cashflow @ 12% discounting rate	$₹ 94 / 1.12$ = ₹ 83.93 lakh	$₹ 156 / 1.12$ = ₹ 139.29 lakh

Since PV of Cash flow of 12-unit building is more, the same is preferable.

Estimated Value of Land and Decision :

With a 70% probability of favourable market conditions, the expected present value of constructing a 12-unit building next year (₹139.29 lakh) exceeds immediate construction. Hence, the value of land is ₹139.29 lakh, and Sumangal Developer should defer construction by one year and build a 12-unit apartment complex.

5. (b)

(i) Intrinsic Value of Share :

Shares of	A Ltd.	B Ltd.
(a) Cost of Capital as per CAPM	$= 7\% + 0.95 \times (13 - 7)$ = 12.70 %	$7\% + 1.42 \times (13 - 7) =$ 15.52 %
Intrinsic Value = $\frac{D1}{K_e - g}$	$\frac{3.50 \times 1.08}{(0.127 - 0.08)}$ = ₹ 80.43	$\frac{3.50 \times 1.08}{(0.1552 - 0.08)}$ = ₹ 50.27
Actual Market Price.	₹74.00	₹55.00
	Buy	Sell

(ii) The value of shares of A Ltd. is higher than that of B Ltd. as its cost of equity capital is lower at 12.70% than B Ltd. which is 15.52%. The dividend of both companies is the same but the higher cost of Capital of B Ltd. reduces its intrinsic Value.

- (iii) The market price of A Ltd shares ₹ 74 is lower than its intrinsic value of ₹ 80.43 per share hence it is likely to increase in future & shares may be bought in market. The market price of shares of B Ltd. Is ₹ 55/- and its intrinsic value is ₹ 50.27. the share price is likely to fall in future hence shares may be sold in market.

6. (a)

Valuation of Human Resources :

Value of Skilled employees :

$$100,000 / (1 + 0.20)^{65-62} + 100,000 / (1 + 0.20)^{65-63} + 100,000 / (1 + 0.20)^{65-64}$$

$$= 57,870.37 + 69,444.44 + 83,333.33 = ₹ 2,10,648.14$$

$$\text{Total value of this group} = ₹ 2,10,648.14 \times 25 = ₹ 52,66,203.50$$

Value of Unskilled employees:

$$60,000 / (1 + 0.20)^{62-60} + 60,000 / (1 + 0.20)^{62-61}$$

$$= 60,000 / (1.20)^2 + 60,000 / (1.20)^1$$

$$= 41,666.67 + 50,000 = ₹ 91,666.67$$

$$\text{Total value of this group} = ₹ 91,666.67 \times 20 = ₹ 18,33,333$$

Total value of human resources of both the groups =

$$₹ 52,66,203.50 + ₹ 18,33,333 = ₹ 70,99,536.50$$

Note :

$$(1.2)^3 = 1.2 \times 1.2 \times 1.2 = 1.728$$

$$(1.2)^2 = 1.2 \times 1.2 = 1.440$$

$$(1.2)^1 = 1.2 = 1.200$$

6. (b)

1. Statement Showing Computation of Economic Value Added (EVA)

(₹ In lakh)

Particulars	Ref.	2025	2026
Net Operating Profit After Tax (NOPAT)	WN-1	184.60	234.00
Total Capital Employed	WN-2	1,000.00	1,264.00
Weighted Average Cost of Capital (WACC)	WN-3	12.98 %	14.342 %
Less: Capital Charge (Capital Employed × WACC)	WN-3	(129.87)	(181.28)
Economic Value Added (EVA)		54.73	52.72

Working Notes

1. Calculation of Net Operating Profit After Tax (NOPAT)

Particulars	2025 (₹ lakh)	2026 (₹ lakh)
Pre-tax Profit (given)	268.00	336.00
Add: Interest Expense	16.00	24.00
EBIT (<i>Operating Profit</i>)	284.00	360.00
Less : Taxes @ 35%	(99.40)	(126.00)
NOPAT (<i>EBIT × 65%</i>)	184.60	234.00

2. Calculation of Total Capital Employed

Particulars	2025 (₹ lakh)	2026 (₹ lakh)
Equity Shareholders' Funds	780.00	944.00
Medium & Long-term Debt	220.00	320.00
Total Capital Employed	1,000.00	1,264.00

3. Calculation of WACC and Capital Charge

To ensure absolute mathematical precision (avoiding decimal rounding errors), the capital charge is computed by applying specific costs directly to the respective capital components.

Particulars	2025	2026
Cost of Equity (Ke)	15.00%	17.00%
Cost of Debt (Kd) post-tax [Pre-tax $\times$ (1 - 0.35)]	$9\% \times 0.65 = 5.85\%$	$10\% \times 0.65 = 6.50\%$
Capital Charge on Equity (Equity $\times$ Ke)	$780 \times 15\% = 117.00$	$944 \times 17\% = 160.48$
Capital Charge on Debt (Debt $\times$ Kd)	$220 \times 5.85\% = 12.87$	$320 \times 6.50\% = 20.80$
Total Capital Charge (₹ lakh)	129.87	181.28
Effective WACC (Total Charge $\div$ Capital Employed)	12.987%	14.342%

Analytical Conclusion :

Has the company created shareholder value ?

Yes, the company has created shareholder value in both years, as evidenced by a positive Economic Value Added (EVA) in both 2025 (₹ 54.73 lakh) and 2026 (₹ 52.72 lakh).

However, despite the aggressive growth in Turnover (up 16.56 %) and Profit After Tax (up 25 %), the rate of value creation has declined.

Primary Reasons for the decline in EVA :

1. Surge in Cost of Capital :

The WACC increased significantly from 12.987 % to 14.342 %, driven by a higher cost of equity (15 % to 17 %) and higher borrowing costs (9 % to 10%).

2. Capital Efficiency Stagnation :

The Return on Operating Capital (ROOC = NOPAT / Capital Employed) remained virtually flat (18.46 % in 2025 vs. 18.51 % in 2026).

3. Spread Compression :

Because WACC rose faster than ROOC, the economic spread (ROOC - WACC) compressed from 5.47 % to 4.17 %. Consequently, the incremental operating profits were insufficient to cover the higher capital charge on the expanded capital base.

7. (a)

Calculating of Average Multiples.

Acquirer	Target	EV / LTM Sales	EV / LTM EBITDA	Equity / LTM PE
A	P	1.0	9.0	17.0
B	Q	1.7	12.0	15.0
C	R	2.2	14.5	20.0
D	S	0.9	8.5	14.0
E	T	2.5	11.0	22.0
	Average	1.7	11.0	17.6

Particulars	EBITDA Multiple	Sales Multiple	Earnings Multiple
	EBITDA	Revenue	EPS
Reported Value	125.0	700.0	0.9
Value Multiplier	11.0	1.7	17.6
Enterprise Value	1,375.0	1,162.0	
Less: Debt	500.0	500.0	
Equity Value	875.0	662.0	
No. of Shares	50	50	
Value per Share	17.5	13.2	15.8
Current Price per share	11.00	11.00	11.00
*Premium over Current Price	59%	20%	44%

7. (b)

Working Note : Computation of Pre-Merger EPS

Formula : $\text{EPS} = \text{Earnings After Tax (EAT)} \div \text{Number of equity shares}$

Particulars	Horizon Enterprises (Acquirer)	Vertex Solutions (Target)
Earnings After Tax (₹)	1,20,00,000	36,00,000
Number of Equity Shares	15,00,000	3,00,000
Pre-merger EPS (₹)	8.00	12.00
Market Value per Share (MPS) (₹)	240.00	180.00

(i) Post-merger EPS if the exchange ratio is based on current market price

Calculation of Exchange Ratio (ER)

- Exchange Ratio = MPS of Target Company $\div$ MPS of Acquiring Company
- Exchange Ratio = ₹ 180 $\div$ ₹ 240 = 0.75 : 1
- (Horizon Enterprises Ltd. will issue 0.75 shares for every 1 share of Vertex Solutions Ltd.)

Computation of Post-Merger EPS

Particulars	Value
Combined Earnings (₹ 1,20,00,000 + ₹ 36,00,000) (₹)	1,56,00,000
Horizon's existing shares	15,00,000
New shares issued to Vertex (3,00,000 × 0.75)	2,25,000
Total Post-Merger Shares	17,25,000
Post-Merger EPS (₹ 1,56,00,000 ÷ 17,25,000) (₹)	9.04

- (ii) Exchange ratio to ensure no earnings dilution for Vertex Solutions Ltd.
For Vertex Solutions Ltd.'s shareholders to suffer absolutely no dilution in their earnings, their equivalent post-merger EPS must be strictly equal to their pre-merger EPS of ₹ 12.00.

Method 1 : EPS Ratio Method

To maintain identical earnings per share for the target company, the maximum exchange ratio is derived using the respective pre-merger Earnings Per Share of both companies.

- Exchange Ratio = EPS of Target Company ÷ EPS of Acquiring Company
- Exchange Ratio = ₹ 12.00 ÷ ₹ 8.00 = 1.50 : 1

Alternative :

Method 2 :

- Let the required Exchange Ratio be 'ER'.
- Target's Equivalent EPS = Post-Merger EPS × ER
- Target's Equivalent EPS = [Combined EAT ÷ (Horizon's Shares + New Shares)] × ER
- $12.00 = [1,56,00,000 ÷ (15,00,000 + 3,00,000 × ER)] × ER$
- $12.00 × (15,00,000 + 3,00,000 ER) = 1,56,00,000 ER$
- $1,80,00,000 + 36,00,000 ER = 1,56,00,000 ER$
- $1,56,00,000 ER - 36,00,000 ER = 1,80,00,000$
- $1,20,00,000 ER = 1,80,00,000$
- $ER = 1,80,00,000 ÷ 1,20,00,000 = 1.50$
- Exchange Ratio = 1.50 : 1

The Post Merger EPS will be $[15600000 ÷ (1500000 + 300000 × 1.5)]$
 $(15600000 ÷ 1950000) = ₹ 8.00.$

The earnings of Vertex Solutions shareholder Post Merger will be (450,000 shares × ₹ 8.00) i.e. ₹ 36,00,000 which will be maintained & not diminished by merger.

Conclusion :

Horizon Enterprises Ltd. must offer an exchange ratio of 1.50 shares for every 1 share of Vertex Solutions Ltd. to ensure that the target's shareholders face zero dilution in their available earnings.

8. (a)**(i) Year-over-Year Trend Analysis:**

(₹ in lakhs)	2022	2023	2024	YOY Change (22-23) (%)	YOY Change (23-24) (%)
Revenue	12000	13500	14400	12.5	6.67
EBIT	1800	1800	1200	0	-33.33
Net Profit	1600	1550	900	-3.13	-41.94
Gross Profit	4200	4500	4200	7.14	-6.67
Operating Expenses	2400	2700	3000	12.5	11.11

Key Observations:

- Revenue is growing but growth rate is slowing down.
- EBIT remains flat from 2022 to Year 2023 but drops sharply in 2024 (-33%).
- Net profit declines, especially in 2024, reflecting margin pressures.
- Operating expenses are increasing consistently.
- Gross profit increased in 2023 but decreased in 2024 indicating margin pressure from rising COGS.

(ii) Financial Viability of ₹ 1500 lakhs Automation Investment:

Assuming revenue growth continues at 6.67% from 2024 to 2025, revenue in 2025 = 14400×1.0667
= ₹ 15360 lakhs

Current net profit margin = 6.25 % (in 2024) $(900 / 14400)$

If improved by 4%, the new margin is 10.25%.

Now net profit for 2025 = $10.25 \% \times ₹ 15360 = ₹ 1574.4$ lakhs

Old Net Profit for 2025 = $6.25 \% \times ₹ 15360 = ₹ 960$ lakhs

Incremental profit due to automation = ₹ 1574.4 - ₹ 960 = ₹ 614.40 lakhs.

NPV of the investment = ₹ 614.40 X 3.605 - ₹ 1500 = ₹ 714.91 lakhs.

Decision :

Since NPV is positive, the automation project is financially viable and should be accepted.

Alternative Answer :**(ii) Financial Viability of ₹ 1500 Lakhs Automation Investment :**

Since no future revenue forecast has been provided in the question, the latest available revenue (2024) is considered for evaluating the benefit of automation.

Automation is expected to improve profit margin by 4 %

Annual Benefit = ₹ 14400 x 4 % = ₹ 576 Lakh

PV Factor (12 %, 5 years) = 3.605

PV = ₹ 576 x 3.605 = ₹ 2076.48 Lakh

Net Present Value (NPV)

NPV = ₹ 2076.48 – ₹ 1500 = ₹ 576.48 Lakh

Decision :

Since NPV is positive, the automation project is financially viable and should be accepted.

8. (b)

The current market value of shares of RIL is ₹20,00,000 & SIL is ₹10,00,000

Scheme I : Issue of 20,000 shares of RIL

Particulars	RIL	SIL	Total
No. of shares	50,000	20,000	70,000
EPS			5 (3,50,000 / 70,000)
Market price (₹)			50
Market value (₹)	25,00,000	10,00,000	35,00,000
Gain / (Loss) (₹)	5,00,000	Nil	5,00,000

Inference : Entire gain accrues to RIL shareholders.

Scheme II : Issue of 25,000 shares of RIL

Particulars	RIL	SIL	Total
No. of shares	50,000	25,000	75,000
EPS			4.6666 (3,50,000 / 75,000)
Market price (₹)			46.667
Market value (₹)	23,33,333	11,66,667	35,00,000
Gain / (Loss) (₹)	3,33,333	1,66,667	5,00,000

Inference: Both RIL and SIL shareholders benefit.

Scheme III : Issue of 30,000 shares of RIL

Particulars	RIL	SIL	Total
No. of shares	50,000	30,000	80,000
EPS			4.375 (3,50,000 / 80,000)
Market price (₹)			43.75
Market value (₹)	21,87,500	13,12,500	35,00,000
Gain / (Loss) (₹)	1,87,500	3,12,500	5,00,000

Inference : SIL shareholders gain at the expense of RIL shareholders.

Conclusion:

Since both set of shareholders gain, issue of 25,000 shares is recommended as that will be fair to shareholder of both companies & will be most acceptable.