

**SUGGESTED ANSWERS**

**SECTION - A**

**1. (a)**

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

**1. (b)**

- (xi) (B)
- (xii) (D)
- (xiii) (C)
- (xiv) (C)
- (xv) (A)

**SECTION - B**

**2. (a)**

**Decision Grid Analysis:**

**The components of the Decision Grid Analysis (DGA) are as follows:**

1. Identify the Decision Problem: This involves clearly defining the decision problem and its alternatives.
2. Build the Decision Grid: This involves constructing a decision grid that includes the decision problem, criteria, and alternatives.
3. Evaluate the Alternatives: This involves assessing each alternative against each criterion and assigning weights to each criterion.
4. Score the Alternatives: This involves scoring each alternative on each criterion, based on the weights assigned.
5. Make a Decision: This involves making a final decision by choosing the alternative with the highest score.

**The four segments of Decision Grid Analysis (DGA) are as follows:**

1. **Loser** - this is a segment where the sales volume generated by a customer is low and along with this the contribution as a percentage of sales is also negative. This is the segment identified as the least profitable and the strategy is surely elimination of customers who fall in this segment.

2. **Problem** - this segment comprises customers who generate negative percentage contribution but the sales volume is on the higher side and thus a turnaround strategy may be recommended. But the customers also destroy value and the company sometimes prefer a elimination strategy especially when the company is optimistic about acquisition of new customers.
3. **Potential** - this segment comprises of group of customers who generate positive contribution and are thus classified as profitable but their contribution to the total sales volume is low and thus, they are referred as potential as various promotional schemes including loyalty programmes would help increase the volume of sales to these customers which would make them winners.
4. **Winner** - this segment comprises customers who generate positive contribution as well the sales volume is the highest. These are the top profitable customers and the company strategy is to retain these customers.

## 2. (b)

### **Main features of Performance, Productivity and Efficiency are explained as follows:**

The concepts of productivity and efficiency have received a great deal of attention in many countries and organizations and by individuals in recent years. In an organizational context, productivity and efficiency reflects overall performance. This could lead to increase or decrease in stakeholder's wealth. Hence, all the stakeholders of a business organisation are concerned with the concepts of productivity and efficiency vis-à-vis performance.

At a basic level, productivity examines the relationship between input and output in a given production process. Thus, productivity is expressed in an output versus input formula for measuring production activities. It does not merely define the volume of output, but output obtained in relation to the resources employed. In this context, the productivity of the firm can be defined as a ratio as given below:

$$\text{Productivity} = \text{Output(s)} / \text{Input(s)}$$

The concept of productivity is closely related with that of efficiency. While the terms productivity and efficiency are often used interchangeably.

Efficiency does not have the same precise meaning as does productivity. While efficiency is also defined in terms of a comparison of two components (inputs and outputs), the highest productivity level from each input level is recognized as the efficient situation. Further suggest that efficiency reflects the ability of a firm to obtain maximum output from a given set of inputs. If a firm is obtaining maximum output from a set of inputs, it is said to be an efficient firm.

Alternative ways of improving the productivity of the firm, for example, are by producing goods and services with fewer inputs or producing more output from the same quantity of inputs. Thus, increasing productivity implies either more output is produced with the same number of inputs or that fewer inputs are required to produce the same level of output. The highest productivity (efficient point) is achieved when maximum output is obtained for a particular input level. Hence, productivity growth encompasses changes in efficiency, and increasing efficiency definitely raises productivity. Consequently, if the productivity growth of an organization is higher than that of its competitors, or other firms, that firm performs better and is considered to be more efficient.

On the other hand, performance is much bigger and more inclusive. In the business sector it is about improving all the factors that increase the profit—factors that reduce expenditure, increase income, and result in more output per unit input. In the public sector it is about how you maximise the quality, scope and timeliness (waiting times) of your service delivery while minimising the inputs that are required. Ultimately, performance is a maximising the amount of output emerging from a system. Hence, Performance will be product of efficiency, utilisation and productivity.

### 3. (a)

(i) Profit =  $TR - TC$

**Substituting the given functions:**

$$\begin{aligned}\text{Profit} &= (4000Q - 33Q^2) - (2Q^3 - 3Q^2 + 400Q + 5000) \\ &= 3600Q - 30Q^2 - 2Q^3 - 5000\end{aligned}$$

Change in profit (dp) due to change in output (dQ)

$$dp/dQ = d/dQ \times (3600Q - 30Q^2 - 2Q^3 - 5000)$$

$$dp/dQ = (3600 - 60Q - 6Q^2)$$

**Setting this to zero to find the critical points:**

$$3600 - 60Q - 6Q^2 = 0$$

Dividing by 6:

$$600 - 10Q - Q^2 = 0$$

**Rearrange :**

$$Q^2 + 10Q - 600 = 0$$

**The quadratic equation is:**

$$Q^2 + 10Q - 600 = 0$$

$$\text{Or, } Q(Q + 30) - 20(Q + 30) = 0$$

$$\text{Or, } (Q - 20)(Q + 30) = 0$$

$$\text{Either, } Q = 20, \text{ or } Q = -30$$

$$\therefore Q = 20 \text{ or } -30$$

Since  $Q > 0$ , we take  $Q = 20$

$$d^2 \text{ profit} / dQ^2 = d / dQ \times (3600 - 60Q - 6Q^2)$$

$$d^2 \text{ profit} / dQ^2 = (-60 - 12Q)$$

Substituting  $Q = 20$

$$d^2 \text{ profit} / dQ^2 = -60 - 12(20) = -60 - 240 = -300$$

$d^2 \text{ profit} / dQ^2 < 0$ , the function is concave, confirming a maximum profit at  $Q = 20$

### (ii) Calculation of Maximum Profit :

$$P(20) = 3600(20) - 30(20)^2 - 2(20)^3 - 5000$$

$$= 72000 - 12000 - 16000 - 5000$$

$$= 39000 \text{ (₹)}$$

### 3. (b)

#### **Risk Enabled Performance Management (REPM)**

For the purpose of handling uncertainties and opportunities at the same time, business leaders need to 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 which grows out of the traditional ERM Model.

#### **Risk Management to Business Advisory:**

For REPM : to succeed there need to be a change in the role and objective of the risk function. Risk and Performance Management would have to be integrated at all levels, and the risk managers need to become business advisors for line managers. This often requires a change of management principals, mental models and governance set up. In addition, management processes at strategic, tactical and operational level need to get

sufficient risk support to goal setting, planning, performing and evaluating efforts. New risk enabled management processes often results in changes to existing meeting structure and new requirements for management information related to progress and forecast on key value and risk drivers. In addition, the process has to be supported with simple tools to measure risk exposure towards the companies' risk appetite along with the effectiveness of their control activities.

#### **Extension of Risk Management to Strategy and Governance (REPM):**

Thus, REPM have evolved from the traditional ERM because of the challenges of the ever-emerging Volatility, Uncertainty, Complexity and Ambiguity (VUCA) environment. It encompasses the data analytics and every possible tool and technique to broaden the traditional ERM. It is based on the basic issue that risk taking is fundamental to economic reward. The key to the future is linking risk and performance management. This linkage often takes the route of data analytics. In the VUCA world, data availability is infinite. These issues make effective risk management process imperative for the strategic and long-term success of an organization. To cope with the changing dynamics businesses need to shift from ERM to REPM. In REPM, the initial issue is identifying the business drivers that are crucial and map them to the objectives which help stakeholders identify relevant emerging risk trends and metrics for its effective monitoring. The effectiveness of this approach lies in formulating business drivers into key strategies and takes, without losing focus on macro perspective. Incorporating data analytics in risk management is key to the REPM. The risk management approach much entrench technologies across the entire risk management process. Thus, it is obvious that leveraging the power of analytics is crucial to REPM.

#### **4. (a)**

##### **(i) Return on Capital Employed (ROCE):**

Profit before Interest & Taxes (PBIT) / Capital Employed (CE)

$$= ₹ (54 + 4) / ₹ (236 + 80) \times 100 = 18.4\% \text{ for } 2024 - 25$$

$$₹ (46 + 4) / ₹ (238 + 80) \times 100 = 15.7\% \text{ for } 2023 - 24$$

The return on capital employed has increased over the year from 15.7% to 18.4%. The profit has increased which may have resulted in the increase.

##### **Alternative Answer :**

$$₹ (54 + 4) / ₹ (236 - 20 + 80) \times 100 = 19.59\% \text{ for } 2024 - 25$$

$$₹ (46 + 4) / ₹ (238 + 80) \times 100 = 15.7\% \text{ for } 2023 - 24$$

The return on capital employed has increased over the year from 15.7% to 19.59%. The profit has increased which may have resulted in the increase.

##### **(ii) Asset Turnover Ratio (ATR)**

Turnover/Total Assets = ₹ 418 / ₹ 408 = 1.02 times for 2024 - 25 and

$$₹ 392 / ₹ 448 = 0.88 \text{ times for } 2023 - 24$$

The asset turnover has increased indicating that the company is using its assets more effectively.

##### **(iii) Current Ratio (CR)**

$$₹ 148 / ₹ 92 = 1.61 \text{ for } 2024 - 25$$

$$₹ 170 / ₹ 130 = 1.31 \text{ for } 2023 - 24$$

The current ratio has increased, meaning that the organization is more liquid. This is due to the fact that inventory and trade receivables have increased (which are nonproductive assets), and trade payables have been reduced. Although this may be better for the current ratio, it may not necessarily mean that the company is operating more efficiently.

**(iv) Inventory Turnover Ratio (ITR)**

$$\text{₹ } 314 / \text{₹ } (74 + 84) \times 0.5 = 4.0 \text{ times for } 2024 - 25$$

$$\text{₹ } 302 / \text{₹ } (58 + 74) \times 0.5 = 4.6 \text{ times for } 2023 - 24$$

This ratio shows how quickly the inventory is being sold. In 2023 – 24 it was being sold at a much higher rate than in 2024-25

The nature of the business needs to be known to see whether these turnover times are in line with the normal industry standards.

**(v) Equity Gearing Ratio (EGR) :**

$$= \text{Preference shares capital} + \text{loans} / \text{Ordinary Share Capital} + \text{reserves}$$

$$\text{₹ } (50 + 80) / \text{₹ } (236 - 50) = 69.9\% \text{ for } 2024 - 25$$

$$\text{₹ } (50 + 80) / \text{₹ } (238 - 50) = 69.1\% \text{ for } 2023 - 24$$

Low geared = less than 100%, highly geared = more than 100% and neutrally geared if ratio is 100%. The gearing remains at almost similar levels. The company is not highly geared.

**(vi) Dividend Coverage Ratio (DCR) :**

$$= \text{Profit after tax and after preference dividend} / \text{dividend paid}$$

$$\text{₹ } (34 - 4) / \text{₹ } 12 = 2.5 \text{ times for } 2024 - 25$$

$$\text{₹ } (26 - 4) / \text{₹ } 10 = 2.2 \text{ times for } 2023 - 24$$

The dividend cover is after allowing for preference dividends. There is a reasonably comfortable cover.

**(vii) Price / Earnings Ratio (P/E Ratio):**

$$= \text{Market price} / \text{EPS}$$

$$240 / 21.42 = 11.20 \text{ times for } 2024 - 25$$

$$170 / 15.71 = 10.82 \text{ times for } 2023 - 24$$

The PE ratio is quite high, indicating that the market has confidence in the company's future growth. However, this needs to be compared with industry or similar companies.

With all the ratios it would be useful to compare against the industry averages.

**4. (b)**

**Interpretation of Z-score of Y-Connection :**

The Altman Z-Score is a financial model used to predict the likelihood of a company entering bankruptcy. It is based on five key financial ratios, and the final score is used to assess the financial health of a firm. Let's analyze the results of Y-Connection for the period 2020-2024, based on the Altman Z-Score formula and the individual components provided.

**Comment on Individual Ratios:**

Ratio	Comments
X1: Working Capital to Total Assets	There is an improvement in this ratio from 2020 (0.020) to 2024 (0.040), which indicates an increase in the company's liquidity position. This is a positive sign, suggesting better short-term financial health.
X2: Retained Earnings to Total Assets	This ratio has generally declined from 2020 (0.174) to 2024 (0.070). This decline indicates a reduction in the firm's retained earnings as a proportion of total assets, which could be a sign of lower profitability or higher dividend payouts.

X3: EBIT to Total Assets	There is a decline in this ratio from 2020 (0.253) to 2023 (0.200), followed by a further drop in 2024 (0.130). This indicates lower operational efficiency and return on assets, and in the light of reduced retained earnings to total assets the decline upto 2024 warrants attention.
X4: Market Value of Equity to Total Debts	This ratio shows significant improvement from 2020 (0.565) to 2023 (0.922), followed by a slight decline in 2024 (0.724). A high and improving ratio indicates that the firm is becoming less reliant on debt and improving its financial structure.
X5: Sales to Total Assets	This ratio has consistently improved from 2020 (0.823) to 2024 (1.540), indicating that the firm has become more efficient in generating sales from its assets. This is a positive sign of growth and effective asset utilization. Although this may be at the cost of lower realization and lower profitability per unit.

### Z-Score Interpretation:

The Z-Score for Y-Connection has shown an improving trend over the five years, from 1.840 in 2020 to 2.490 in 2024.

A Z-Score below 1.8 generally indicates a high risk of bankruptcy.

A Z-Score between 1.8 and 3.0 suggests a "gray area" of potential financial distress, with the firm at some risk but not yet at a crisis level.

A Z-Score above 3.0 generally suggests the company is financially healthy with a low risk of bankruptcy.

The Z-Score of Y - Connection is consistently in the "gray area" (between 1.8 and 3.0), though it has been improving year over year. This suggests that the company has been managing its financial risks effectively, but it is still in a position where caution is required.

The improvement from 1.840 to 2.490 is encouraging, indicating that the company is gradually strengthening its financial position and is moving towards greater stability and if the progress continues it will become financially healthy.

### Conclusion

The firm is still in the gray zone, meaning it is not in immediate danger of bankruptcy but should continue to focus on improving profitability, maintaining strong operational performance, and strengthening its equity base. The improving trend in the Z-Score is encouraging, but vigilance is necessary to ensure that the company does not fall into a riskier financial position in the future.

## 5. (a)

### 1. Computation of Future Maintainable Equity Earnings

Particulars	2022	2023	2024
Profit After Tax	2,20,500	3,22,500	2,40,000
Less: Profit on Non- recurring Item (10% x 3,22,500)	-	(32,250)	--
Claims unaccounted, now accounted	--	---	(8,250)
Add: Provision for Bad Debts not required (2,99,250 x 5/95)	---	---	15,750
Less: Tax Provision at 50% on the above (15,750 - 8,250) x 50%	--	---	(3,750)

Adjusted Profits after Tax	2,20,500	2,90,250	2,43,750
Average Profits (2,20,500 + 2,90,250 + 2,43,750) ÷ 3			2,51,500
Add: Interest on Debentures (No Longer Payable) (₹ 3,00,000 x 5% x 50%) (after tax)			7,500
Less: Income from Investments (No Longer receivable) (₹ 3,00,000 x 10% x 50%) (after tax)			(15,000)
Future Maintainable Profits before Preference Dividend			2,44,000
Less: Preference Dividend			(9,000)
Future Maintainable Equity Earnings			2,35,000

**Note :**

- Sundry Debtors as per Balance Sheet reflects the net balance after deducting 5% provision. Since Net Debtors of ₹ 2,99,250 reflect 95% of the Total Debtors Amount, Provision = ₹ 2,99,250 x 5/95 = ₹ 15,750.
- Simple Average is taken due to fluctuating / oscillating trend of profits.

**2. Computation of Capital Employed**

Particulars	₹
Freehold Property (Capitalization of Rental Value of ₹ 50,400 at 8%)	6,30,000
Plant & Machinery	1,50,000
Stock	2,70,000
Sundry Debtors [ ₹ 2,99,250 ÷ (100 % - Provision at 5%)	3,15,000
Bank [Balance 345000 + Investment Sale 375000 – Debenture Redemption 225000]	4,95,000
Total Assets	18,60,000
Less : Outside Liabilities (excluding Equity Shareholders' Funds)	
Sundry Creditors [ ₹ 2,39,250 + Unaccounted Claim of ₹ 8,250]	2,47,500
Preference Shareholders [Share Capital + Dividend Due]	1,59,000
Additional Tax Liability due to unaccounted claim & provision w/back	3,750
Net Worth of Equity Share Holders on B/s date	14,49,750

**Note :**

- Since Normal Return is 12% on the Net Assets available to Equity Shares (given), Future Maintainable Equity Earnings should be compared with the Expected Equity Earnings. Hence, Net Worth of Equity Shareholders (i.e after deducting Preference Shareholders dues) is considered.
- Goodwill in the Balance Sheet should not be considered for computing net worth for Goodwill computation.
- Redemption value of debentures = face Value ₹ 3,00,000 – 25% Discount = ₹ 2,25,000

**3. Computation of Super profits and Goodwill**

Particulars	₹
Future Maintainable Equity Earnings	2,35,000
Less: Normal Earnings = Normal Return x Capital Employed = 12% x 14,49,750	(1,73,970)
Super Profit i.e Excess Earnings available for Equity Shareholders	61,030
Goodwill at 4 years purchase of Super Profits = ₹ 61,030 x 4 years	2,44,120

**Note :**

Alternatively, Average Capital Employed can be considered as Proxy for Future Capital Employed to determine normal earnings.

#### 4. Valuation of Shares

Particulars	₹
a. Net Worth attributable to Equity Holders (calculated above)	14,49,750
b. Goodwill	2,44,120
c. Total Net Assets of Equity Shareholders	16,93,870
d. Number of Equity Shares	4,500 shares
e. Value per Equity Share	₹ 376.42

#### 5. (b)

(i)

#### Computation of Value of XENON Ltd.:

Particulars	(₹ in Lakhs)	(₹ in Lakhs)
Profit before Tax (100.32/0.66)		152.00
less: Extraordinary income		14.00
Add: Extraordinary Losses		5.00
Normal Profit		143.00
Profit from New product		
Sales	70	
Less : Material costs	20	
Labour costs	16	
Fixed Costs	10	
		24.00
Profit Before Tax		167.00
Less: Tax		56.78
Future Maintainable Profit after taxes		110.22
Relevant Capitalization rate		0.12
Value of business		918.50

(ii)

#### Determination of Market Price per share

Future Maintainable Profit after taxes (₹)	1,10,22,000.00
less: Preference Share Dividend 80,000 shares of 100 @ 9% (₹)	7,20,000.00
Earnings available for Equity Shareholders (₹)	1,03,02,000.00
No. of Equity Shares	50,00,000.00
EPS (₹)	2.06
P/E Ratio (in times)	6
Market price of share (₹)	12.36

#### 6. (a)

(i)

#### Calculation of fair Value per Share of AMGI Limited using Cost Approach.

Total Asset	3,62,78,008
Less: Total Liability	22,30,898
Net Asset Value	3,40,47,110
Less: Book Value of Land	1,00,00,000
Add: Fair Value of Land	1,75,00,000
Less: Contingent Liability	12,00,000
Adjusted Net Asset Value	4,03,47,110
No. of Share (Note - 1)	10,00,000
Value Per Share	40.35

**Note : 1**

The Number of shares of AMGI Ltd = 1,00,00,000 / 10 = 10,00,000 Shares.

**(ii) The Fair Value of Investments in AMGI Limited in the Books of Panda Limited.**

Number of Shares x Fair Value Per Share.

$$4,00,000 \times 40.35 = ₹ 1,61,40,000$$

**(iii) Cost of Investment = ₹ 48,00,000**

Fair Value of Investment = ₹ 1,61,40,000

Compounded Annual Growth Rate =

$$\sqrt[4]{\text{FV} / \text{Cost}} - 1 = \sqrt[4]{16140000 / 4800000} - 1$$

$$= \sqrt[4]{3.3625} - 1 = 1.35415 - 1$$

$$= 0.35 \text{ i.e. } 35\%$$

**6. (b)**

<b>CALCULATION OF NOPAT:</b>		<b>(₹ In Lakhs)</b>
Profit before Interest, Exceptional Items and Tax		1,323.50
<i>Less: Non-Operating Income:</i>		
Interest and Dividend Income on Non - Current Financial Investments		250.00
Other Non-Operating Income		1.25
		251.25
Operating EBIT		1,072.25
<i>Less: Tax @ 30%</i>		321.67
NOPAT		750.58
<b>CALCULATION OF OPERATING CAPITAL :</b>		<b>(₹ In Lakhs)</b>
Share Capital (Face Value - ₹ 10 each)		36.35
Other Equity		2,225.66
12% Redeemable Non-Convertible Preference Shares		2,717.18
8% Long-Term Borrowings from Bank		3,007.09
Total		7,986.28
<i>Less : Non-Operating Non-Current Assets</i>		
Non-current investments		1,664.30
Long- term loans and advances		891.97
Other non-current financial assets		3.03
Operating Capital		5,426.98
Return on Capital Employed = NOPAT/Operating Capital .....		13.83%
Cost of Capital		12.50%
EVA (Return on Operating Capital Employed - WACC) x Operating Capital (0.1383 – 0.125) (5426.98)		₹ 72.18 Lakh
Alternatively, EVA (NOPAT – (Operating Capital Employed x WACC) (750.58) – (5426.98 x 0.125)		₹ 72.21 Lakh

**7. (a)****(i) Value of the Firms before the Merger**

Calculation of Free Cash Flow to each of the Firm

$$\begin{aligned} \text{Free cash flow to RAJJAN} &= \text{EBIT} (1 - \text{tax rate}) \\ &= 2,00,000 (1 - 0.4) = ₹ 1,20,000 \end{aligned}$$

$$\begin{aligned} \text{Free cash flow to REKHA} &= \text{EBIT} (1 - \text{tax rate}) \\ &= 1,60,000 (1 - 0.4) = ₹ 96,000 \end{aligned}$$

Value of the two firms independently

$$\text{Value of RAJJAN} = [1,20,000 (1.06)] / (0.10 - 0.06) = ₹ 31,80,000$$

$$\text{Value of REKHA} = [96,000 (1.08)] / (0.12 - 0.08) = ₹ 25,92,000$$

$$\text{Total of the two firms} = ₹ 57,72,000$$

**(ii) Value of the Firm with Synergy**

On combining the two firms the cost of goods sold is reduced from 70% to 65% of revenues. The

$$\text{revenue of the combined firm} = 8,00,000 + 4,00,000 = ₹ 12,00,000$$

Cost of goods sold = 65% of revenues

$$= 0.65 \times 12,00,000 = ₹ 7,80,000$$

Weighted average cost of capital for the combined firm

$$= 10\% [31,80,000 / 57,72,000] + 12\% [25,92,000 / 57,72,000]$$

$$= 0.0551 + 0.0539 = 0.109$$

Or 11% approximately

Weighted average expected growth rate for the combined firm

$$= 6\% [31,80,000 / 57,72,000] + 8\% [25,92,000 / 57,72,000]$$

$$= 0.033 + 0.0359 = 0.0689$$

Or 7% approximately

Particulars	Firm with No Synergy	Firm with Synergy
Revenues	12,00,000	12,00,000
Cost of Goods Sold (COGS)	8,40,000	7,80,000
EBIT	3,60,000	4,20,000
Growth Rate	7%	7%
Cost of Capital	11%	11%
FCF = EBIT (1-T)	2,16,000	2,52,000

Value of the Firm without Synergy

$$[2,16,000 (1.07)] / (0.11 - 0.07) = ₹ 57,78,000$$

Value of the firm with Synergy

$$= [2,52,000 (1.07)] / (0.11 - 0.07) = ₹ 67,41,000$$

**7. (b)****Valuation Based on market price**

Market Price per share ₹ 440

Thus, value of total business is (₹ 440 × 3.1Cr.) ₹ 1,364 Cr.

**Valuation based on discounted cashflow**

Present Value of Cashflows

$$(460 \text{ Cr} \times 0.893) + (600 \text{ Cr} \times 0.797) + (740 \text{ Cr.} \times 0.712) = ₹ 1,415.86 \text{ Cr.}$$

$$\text{Value per share} (\text{₹ } 1415.86 / 3.1 \text{ Cr}) = ₹ 456.73$$

### Range of Valuation

	Per Share (₹)	Total (₹ in Cr)
Minimum based on Market Value	440.00	1364
Maximum based on Discounted cashflow	456.73	1415.86

#### 8. (a)

##### Income Statement based on actual results :

- (i) Income statement contains sales revenue, variable costs, fixed costs and profit (loss).

In the problem, sales and income are known. We are required to determine variable costs and fixed costs. Given the P/V ratio of 40%, the expected contribution margin is ₹ 1,60,000 i.e. (40% x 8,000 x ₹ 50) and the expected profit is ₹ 96,000. Hence expected fixed costs would be ₹ 64,000 (i.e. ₹ 1,60,000 – ₹ 96,000). The actual fixed costs were higher by the amount of advertisement expenditure of ₹ 4,000 i.e. actual fixed costs would be ₹ 68,000. Since actual income was ₹ 1,26,400 and fixed costs were ₹ 68,000, total actual contribution must have been ₹ 1,94,400 (₹ 1,26,400 + ₹ 68,000), Variable costs, then should be ₹ 2,59,200 i.e. (₹ 4,53,600 – ₹ 1,94,400).

##### The income statement for the year would be as follows:

	Amount (₹)
Sales	4,53,600
Less : Variable costs	<u>2,59,200</u>
Contribution	1,94,400
Less : Fixed costs	<u>68,000</u>
Net Income	1,26,400

- (ii) (I) Since variable costs per unit were as expected, variable costs per unit were (60% x ₹ 50) i.e. ₹ 30. Total actual variable costs were ₹ 2,59,200.

Units sold were (₹ 2,59,200 ÷ ₹ 30) = 8,640 units

- (II) Sales price per unit = Total sales revenue / No. of units sold  
= ₹ 4,53,600 / 8,640 = ₹ 52.50

##### Explanation to Chief Executive :

Mr. Sandeep's answer to the chief executive should highlight the changes in the selling price and fixed costs. In the cost-volume-profit-relationship, assumptions are critical. If they vary, the planned and actual results are bound to differ. Here, selling price has gone up causing higher P/V ratio (variable cost per unit remains constant) and hence, more profit rate than ₹ 0.40 per rupee of additional sales. Revised P/V ratio is 42.86% (9/21 per rupee of sales). Furthermore, additional fixed costs have been incurred. These two factors distorted the cost-volume profit relationship stipulated by Mr. Sandeep.

**8. (b)****(i)****Shareholder's Fund:**

<b>Particulars</b>	<b>Fortune India Ltd. (31.03.2024) (A)</b>	<b>Fortune Pharma Ltd. (01.04.2024) (B)</b>	<b>Fortune India (FMCG) Ltd. (01.04.2024) (A-B)</b>
Assets	70,000	25,100	44,900
Outside Liabilities	25,000	4,100	20,900
Net Worth	45,000	21,000	24,000

Figures of Fortune India (FMCG) India Ltd is balancing figure (A – B).

**Calculation of Shares of Fortune Pharma Ltd. to be issued to shareholders of Fortune India Ltd:**

<b>Fortune Pharma Ltd.</b>	
Estimated Profit (₹ in lakhs)	1470
Estimated Market Price (₹)	24.50
Estimated P/E	25
Estimated EPS (₹) (24.50 / 25)	0.98
No. of shares (Lakhs) (1,470 / 0.98)	1500

Hence, Ratio is 1 shares of Fortune Pharma Ltd. for 2 shares of Fortune India Ltd.

**(ii) Expected Market Price of Fortune India Limited:**

<b>Fortune India (FMCG) Ltd.</b>	
Estimated Profit (₹ in lakhs)	11,400
No. of Equity Share ( in Lakhs)	3,000
Estimated EPS (₹)	3.8
Estimated P/E	42
Estimated Market Price (₹)	159.6

**(iii)**

	<b>Fortune Pharma Ltd.</b>	<b>Fortune India (FMCG) Ltd.</b>
Net Worth (₹ in Lakhs)	21,000	24,000
No. of Shares (In Lakhs)	1,500	3,000
Book Value of Share (₹)	14	8