Paper 20 - Strategic Performance Management & Business Valuation

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

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

Section - A

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

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

   (i) The components of supply chain management are:
      (A) Plan, source, make, deliver & return
      (B) Plan, system, make, deliver & return
      (C) Plan, source, supply & return
      (D) Plan, source, make, deliver & warranty

   (ii) The prices which are fixed and enforced by the Government and regulatory in nature, is called:
      (A) Dual Pricing
      (B) Administered Pricing
      (C) Shadow Pricing
      (D) Multiple Product Pricing.

   (iii) Which of the following is not a type of an OLAP system?
      (A) ROLAP
      (B) MOLAP
      (C) RTOLAP
      (D) ZTOLAP

   (iv) J Ltd. is operating in a perfectly competitive market. The price elasticity of demand and supply of the product estimated to be 3 and 2 respectively. The equilibrium price of the product is Rs. 100. If the government imposes a specific tax of Rs.10 per unit, what will be the new equilibrium price?
      (A) Rs. 110
      (B) Rs. 44
      (C) Rs. 104
      (D) Rs. 106

   (v) Performance is a product of:
      (A) Efficiency and Utilization
      (B) Utilization and Productivity
      (C) Efficiency and Productivity
      (D) Efficiency, Utilization and Productivity.

Answer:

(i) (A) The five basic components of supply chain management are — plan, source, make, deliver & return.

(ii) (B) Administered prices are the prices which are fixed and enforced by the Government. The term administered prices was introduced by Keynes. These prices are regulatory in nature.

(iii) (D) Except ZTOLAP, all other options like ROLAP (Relational OLAP), MOLAP (Multidimensional OLAP), RTOLAP (Real-time OLAP) are the types of OLAP system.

(iv) (C) Distribution of tax burden between buyers and sellers is in ratio of elasticity of supply to elasticity of demand.

Thus tax burden borne by the buyer = Rs. 10 × 2/5 = Rs. 4.

If the tax burden borne by buyer is Rs. 4, new equilibrium price will be Rs. (100 + 4) = Rs. 104.

(v) (D) Performance is a product of efficiency, utilization & productivity, since this option fully covers all aspects of Performance.

2.(a) What is Performance Management? "Performance management and performance appraisal are sometimes used synonymously but they are different". Do you agree this statement? Support your answer by highlighting bases of difference, if any, between them. [2+8=10]

(b) State how six sigma methodology works through the use of its two sub methodologies: DMAIC and DMADV. "Benchmarking is a powerful management tool because it overcomes paradigm blindness" — Justify the statement. [5+5=10]

Answer:

(a) Performance management focuses mainly on the achievement of results. It differentiates the aspects, such as being engaged and producing results- which means, being busy should not necessarily be indicating that the results are being produced. There may be times when employees seem to be very busy but in terms of their performance, the results are in contrast to what has been expected. Systematic performance appraisal provides much assistance in assessing the potentials of the employees. Thus, performance management directs and leads the business to the overall achievement with the assessment of employees' effectiveness by the implementation of performance appraisals at regular intervals.

The statement performance management and performance appraisal are sometimes synonymously but they are different, is correct. Performance management is a comprehensive, continuous and flexible approach to the management of organizations, teams and individuals which involves the maximum amount of dialogue between those concerned. Performance appraisal is a more limited approach which involves managers making top-down assessments and rating the performance of their subordinates at an annual performance appraisal meeting. Following few major differences can be identified between these two:

Performance Appraisal	Performance Management
It concerns with top-down assessment.	It concerns with joint process through dialogue.
Annual appraisal meeting is held.	Continuous review with one or more formal reviews, it is not an annual process.
It is monolithic system.	It is flexible process.
It focuses on quantified objectives.	It focuses on values and behaviors as well as objectives.
Complex paperwork is needed -	Documentation kept to a minimum -

bureaucratic approach	managerial approach
It is owned by the Human Resource department.	It is owned by line managers.
Involves use of Ratings.	Use of ratings less common.
Structured system, not open to change.	Flexible system.
It is a part of Performance Management.	It includes performance Appraisal, but goes beyond.

(b) Six Sigma at many organizations simply means a measure of quality that strives for near perfection. Six Sigma is a disciplined, data-driven approach and methodology for eliminating defects (driving toward six standard deviations between the mean and the nearest specification limit) in any process – from manufacturing to transactional and from product to service.

The statistical representation of Six Sigma describes quantitatively how a process is performing. To achieve Six Sigma, a process must not produce more than 3.4 defects per million opportunities. A Six Sigma defect is defined as anything outside of customer specifications. A Six Sigma opportunity is then the total quantity of chances for a defect.

The fundamental objective of the Six Sigma methodology is the implementation of a measurement based strategy that focuses on process improvement and variation reduction through the application of Six Sigma improvement projects. This is accomplished through the use of two Six Sigma sub methodologies: DMAIC and DMADV. The Six Sigma DMAIC process (define, measure, analyze, improve, control) is an improvement system for existing processes falling below specification and looking for incremental improvement. The Six Sigma DMADV process (define, measure, analyze, design, verify) is an improvement system used to develop new processes or products at Six Sigma quality levels. It can also be employed if a current process requires more than just incremental improvement.

"Benchmarking is a powerful management tool because it overcomes paradigm blindness". Paradigm Blindness can be summed up as the mode of thinking, "the way we do it is the best because this is the way we've always done it". Benchmarking opens organizations to new methods, ideas and tools to improve their effectiveness. It helps crack through resistance to change by demonstrating other methods of solving problems than the one currently employed and demonstrating that they work, because they are being used by others. The steps are as follows:

1. Identify your problem areas.
2. Identify other industries that have similar processes.
3. Identify organizations that are leaders in these areas.
4. Survey companies for measures and practices
5. Visit the "best practice" companies to identify leading edge practices.
6. Implement new and improved business practices.

3.(a) The Demand function is x = 100 + 4p + 10p², where x is demand for the commodity at price 'p'. Compute marginal quantity of demand, average quantity of demand and hence elasticity of demand, at p = 4. **[8]**

(b)(i) Write about the causes of sickness of a project.
(ii) Using Altman's Multiple Discriminant Function, calculate Z-score of S & Co. Ltd., where the five accounting ratios are as follows and comment about its financial position:

Working Capital to Total Assets = 0.350
Retained Earnings to Total Assets = 50%
EBIT to Total Assets = 19%
Book Value of Equity to Book Value of Total Debt = 1.65
Sales to Total Assets = 2 times.   [5+7=12]

Answer:

(a) $x = 100 + 4p + 10p^2$

Marginal quantity of demand = $\dfrac{dx}{dq}$

$\dfrac{dx}{dq} = 4 + 20p$ -------------- (1)

Average quantity of demand = $\dfrac{x}{p} = \dfrac{100}{p} + 4 + 10p$ ------------------- (2)

$E_p = \dfrac{dx}{dq} \times \dfrac{x}{p} = \dfrac{4+20p}{\dfrac{100}{p}+10p+4} = \dfrac{(4+20p)p}{100+10p^2+4p}$

At p = 4,

Elasticity of demand $= \dfrac{(4+80)4}{100+160+16} = \dfrac{28}{23} = 1.22$

(b)(i) "Prevention is better than cure' is the proverb that reflects the need for knowing the likely causes of industrial sickness so that one can plan to avoid the same, Just as human beings fall sick by two ways, viz.. either born sick or acquiring sickness during growth, an industry can either run into trouble even during the implementation stage itself or develop sickness during its lifetime.

The causes of sickness can be categorized into two viz., internal causes and external causes. Internal causes are those that are internal to the organization over which the management of the organization has control. Sickness due to internal causes can be avoided if the management is shrewd enough to identify the causes and eliminate them at their initial stage itself. External causes are those that are external to the organization over which the management of the organization has little control. Government's plans and actions, failure of monsoon which affects agriculture and allied industries, emergence of strong competitors etc. are some of the external factors. Though sickness may be caused either by internal or external factors, sometimes, the management may be able to revamp its organization, plan suitable strategies and take on the external factors to reduce their impact.

The areas/stages in which these causes may exist are as follows:

- Project formulation.
- Project implementation.
- Production.
- Marketing.
- Finance.
- General and personnel administration.

(ii) As the Book Value of Equity to Book Value of Total Debt is given in the problem in place of Market Value of Equity to Book Value of Total Debt, the value of Z-score is to be computed as per Altman's 1983 Model of Corporate Distress Prediction instead of Altman's 1968 Model of Corporate Distress Prediction that we followed earlier.

As per Altman's Model (1983) of Corporate Distress Prediction,

$Z = 0.717X_1 + 0.847X_2 + 3.107X_3 + 0.420X_4 + 0.998X_5$

Here, the five variables are as follows:

X_1 = Working Capital to Total Assets = 0.350

X_2 = Retained Earnings to Total Assets = 0.50

X_3 = EBIT to Total Assets = 0.19

X_4 = Book Value of Equity Shares to Book Value of Total Debt = 1.65

X_5 = Sales to Total Assets = 2 times

Hence, Z-score = (0.717 x 0.35) + (0.847 x 0.50) + (3.107 x 0.19) + (0.420 x 1.65) + (0.998 x 2)

= 0.25095 + 0.4235 + 0.59033 + 0.693 + 1.996 = 3.95

Note: As the calculated value of Z-score is much higher than 2.9, it can be strongly predicted that the company is a non-bankrupt company (i.e., non-failed company).

4.(a) What are Key Risk Indicators in the process of Risk Mapping? State the benefits of Risk Mapping. **[5+5=10]**
(b) Describe the accounting techniques of financial performance analysis. State the significance of financial performance analysis. **[6+4=10]**

Answer:

(a) Key Risk Indicators in the process of Risk Mapping Key risk indicators come out as the result of the mapping process and should be used to provide anticipatory signals that can be useful for both operational risk prevention and measurement. In particular, they should provide early warning signals to anticipate the most critical operational events, and they may also be partly derived from the experience of audit departments defining potential risk scores for different business units as a tool for defining priorities in their audit action plan.

A manufacturing enterprise may assess risks of operational losses by reviewing its competitiveness in regard to technology adopted, competitors' strengths, etc. Key indicators should build up early signals of deficiencies through information system interfacing between enterprise's changing environment and its adaptive organization. Such indicators may include the following:
* Market performance, customers' feedback/complaints & competitors' performance
* Orders-in-hand and inventory
* Input-output performance
* Cycle-times (e.g. work cycle times of different activities in value-chain, order-to-delivery cycles in purchases & sales, etc.)
* Suppliers' performance (in terms of delivery & quality compliance)
* Plant utilization (% usage of different machineries)
* Cost per unit of product/ service.
* Financial ratios (ROI, product profitability, capital turnover rate, liquidity ratio, debt-equity ratio, etc).

Benefits of Risk Mapping:

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

(b) Accounting techniques of financial performance analysis: Various accounting techniques such as Comparative Financial Analysis, Common-size Financial Analysis, Trend Analysis, Fund Flow Analysis, Cash Flow Analysis, CVP Analysis, Ratio Analysis, Value Added Analysis etc. may be used for the purpose of financial analysis. Some of the important techniques which are suitable for the financial analysis are discussed hereunder:

- Ratio Analysis: In order to evaluate financial condition and performance of a firm, the financial analyst needs certain tools to be applied on various financial aspects. One of the widely used and powerful tools is ratio or index. Ratios express the numerical relationship between two or more things. This relationship can be expressed as percentages (say, 25% of revenue), fraction (one-fourth of revenue), or proportion of numbers (1:4). Accounting ratios are used to describe significant relationships, which exist between figures shown on a balance sheet, in a profit and loss account, in a budgetary control system or in any other part of the accounting organization. Ratio analysis plays an important role in determining the financial strengths and weaknesses of a company relative to that of other companies in the same industry. The analysis also reveals whether the company's financial position has been improving or deteriorating over time. Ratios can be classified into four broad groups on the basis of items used: (i) Liquidity Ratio, (ii) Capital Structure/Leverage Ratios, (iii) Profitability Ratios, and (iv) Activity Ratios.

- Common-Size Financial Analysis: Common-size statement is also known as component percentage statement or vertical statement. In this technique net revenue, total assets or total liabilities is taken as 100 per cent and the percentage of individual items are calculated likewise. It highlights the relative change in each group of expenses, assets and liabilities. Common size ratios are used to compare financial statements of different-size companies or of the same company over different periods. By expressing the items in proportion to some size-related measure, standardized financial statements can be created, revealing trends and providing insight into how the different companies compare.

- Trend Analysis: Trend analysis indicates changes in an item or a group of items over a period of time and helps to draw the conclusion regarding the changes in data. In this technique, a base year is chosen and the amount of item for that year is taken as

one hundred for that year. On the basis of that the index numbers for other years are calculated. It shows the direction in which concern is going.

Significance of financial performance analysis: Interest of various related groups is affected by the financial performance of a firm. Therefore, these groups analyze the financial performance of the firm. The type of analysis varies according to the specific interest of the party involved.

(A) Trade creditors: interested in the liquidity of the firm (appraisal of firm's liquidity)

(B) Bond holders: interested in the cash-flow ability of the firm (appraisal of firm's capital structure, the major sources and uses of funds, profitability over time, and projection of future profitability)

(C) Investors: interested in present and expected future earnings as well as stability of these earnings (appraisal of firm's profitability and financial condition)

(D) Management: interested in internal control, better financial condition and better performance (appraisal of firm's present financial condition, evaluation of opportunities in relation to this current position, return on investment provided by various assets of the company, etc).

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

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

   (i)   **Which one of the following statements is not true about efficient market?**
         (A) Share prices behave randomly and do not show any systematic pattern in the behavior
         (B) Price of one share is independent of the price of other shares in the market
         (C) Share prices fully reflect all available information
         (D) None can earn abnormally high profits on a constant basis.

   (ii) **Assume that in a Stock Market, the CAPM is working. A company has presently beta of 0.84 and its going to finance its new project through debt. This would increase its Debt/Equity Ratio to 1.56 from the existing 1.26. Due to increased Debt/Equity Ratio, the Company's beta would:**
         (A) Increase
         (B) Decrease
         (C) Remain unchanged
         (D) Nothing can be concluded.

   (iii) **X Ltd. has Rs. 100 crores worth of common equity on its balance sheet comprising of 50 lakhs shares. The company's Market Value Added (MVA) is Rs. 24 crores. What is company's stock price?**
         (A) Rs. 230
         (B) Rs. 238
         (C) Rs. 248
         (D) Rs. 264

   (iv) **Rico Ltd. has PAT of Rs. 40.20 lakhs with extra ordinary income of Rs. 7.00 lakhs. If the cost of capital is 20% and the applicable tax rate is 40% the value of Rico Ltd. will be:**
         (A) Rs. 250 lakhs

(B) Rs. 180 lakhs

(C) Rs. 150 lakhs

(D) Insufficient information.

(v) **Identify which of the following is not a financial liability?**
(A) X Ltd. has 1 lakh Rs. 10 ordinary shares issued
(B) X Ltd. has 1 lakh 8% Rs. 10 redeemable preference shares issued
(C) X Ltd. has Rs. 2,00,000 of 6% bonds issued
(D) Both (A) and (B).

Answer:

(i) (B) Price of one share is independent of the price of other shares in the market. All other points are related to the characteristic of the efficient market.

(ii) (C) Here, the company's beta would remain unchanged, because as per CAPM, the company specific risk has no impact on the systematic risk.

(iii) (C) Rs. (100+24) crores / 50 lakhs shares = Rs. 248.

(iv) (B) PAT — Rs. 40.20 Lakhs

Extraordinary income =	Rs. 7 lakhs
Tax @ 40% =	Rs. 2.8 lakhs
PAT of Extraordinary income =	Rs. 4.2 lakhs

PAT excluding extra ordinary income = Rs. 40.2 lakhs – Rs. 4.2 lakhs
= Rs. 36 lakhs
Cost of capital = 20%
Value of firm = Rs. 36 lakhs/ 0.20 = Rs. 180 lakhs.

(v) (A) X Ltd. has 1 lakh Rs. 10 ordinary shares issued. A share is an indivisible unit of capital, expressing the proprietary relationship between the company and the shareholder.

6.(a) **The following informations are furnished in respect of a certain firm:**
Earnings per Share = Rs. 3.15
Capital Expenditure per Share = Rs. 3.15
Depreciation per Share = Rs. 2.78
Change in Working Capital per Share = Rs. 0.50
Debt Financing Ratio = 25%

Earnings, Capital Expenditure, Depreciation and Working Capital are all expected to grow at 6% per year. The beta for stock is 0.90. Treasury bond rate is 7.50%. A premium of 5.5% is used for the market.
Calculate the value of stock. [8]

(b) **Find out the average capital employed of ND Ltd. From its Balance Sheet as at 31st March, 2019:**

Equity and Liability	Rs. in Lakhs	Assets	Rs. in Lakhs
(1) Shareholders Fund:		(1) Non-Current Assets:	
(a) Share Capital		(a) Fixed Assets	

(i) Equity Share Capital of Rs. 10 each	50.00	**(i) Tangible Assets:**	
		— Land and Building	25.00
(ii) 9% Preference Shares fully paid up	10.00	— Plant and Machinery	80.25
		— Furniture and Fixtures	5.50
(b) Reserve & Surplus		— Vehicles	5.00
(i) General Reserve	12.00	**(b) Non-Current Investments**	10.00
(ii) Profit & Loss Account	20.00	**(c) Other Non-Current Assets**	0.50
(2) Non-Current Liabilities:		— Preliminary Expenses	
Long Term Borrowings			
(i) 16% Debentures	5.00		
(ii) 16% Term Loan	18.00	**(2) Current Assets:**	
(iii) Cash Credit	13.30	**(a) Inventories**	6.75
(3) Current Liabilities:		**(b) Trade Receivables**	4.90
(a) Trade Payables - Sundry Creditors	2.70	— Sundry Debtors	
(b) Short Term Provision		**(c) Cash and Cash Equivalents**	10.40
– Provision for Taxation (Net)	6.40		
— Proposed Dividend			
Equity Shares	10.00		
Preference Shares	0.90		
Total	**148.30**	**Total**	**148.30**

Non-trade investments were 20% of the total investments.

Balances as on 1.4.2018 to the following accounts were:

Profit and Loss account Rs.8.70 lakhs, General reserve Rs.6.50 lakhs.   [12]

Answer:

(a) Estimating Value:

Long term bond rate 7.5%

Cost of equity = 7.5% + (0.90 x 5.5%) = 12.45%

Expected growth rate 6%

Base year Free Cash flow to Equity (FCFE)

= Earnings per share - (Capital Expenditure - Depreciation) (1- Debt Ratio) - Change in working capital (1 - Debt Ratio)

= 3.15 - (3.15 - 2.78) (1 - 0.25) - 0.50 (1 - 0.25) = 2.50

Value per share

= 2.50 x 1.06 / (0.1245 – 0.06) = Rs. 41.09 or Rs. 41.

(b) Computation of Average Capital employed

		(Rs. in Lakhs)
Total Assets as per Balance Sheet		148.30
Less: Preliminary Expenses		0.50
Non-trade investments (20% of Rs. 10 lakhs)		2.00
		145.80

Less: Outside Liabilities:	
16% Debentures	5.00
16% Term Loan	18.00
Cash Credit	13.30
Sundry Creditors	2.70
Provision for Taxation	6.40
Closing Capital Employed	100.40
Capital Employed as on 31.03.2019	
Less: ½ of profit earned:	
Increase in reserve balance	5.50
Increase in Profit & Loss A/c	11.30
Proposed Dividend	10.90
Profit earned during the year	27.70
50% of Profit earned during the year i.e. Rs. 27.70 lakhs x ½	13.85
Average capital employed	86.55

7.(a) The bidding company B Ltd. is contemplating a merger with the target company, T Ltd. so as to form the merged B Ltd. under two distinct situations X and Y. You are provided with the following information about the proposed merger:

Company	B Ltd.	T Ltd.
EAT (Rs. lakhs)	40	12.5
No. of Equity Shares (in lakhs)	5	2
P/E ratio	12.5	20

Situation X: There is no synergy in earnings, but P/E of merged B Ltd. will stand at 15. Merger is based on market value of shares.

Situation Y: Post merger P/E stands at that of stand-alone B Ltd., but earnings of the merged entity rises by 20% over the aggregate earnings of B Ltd. and T Ltd. Swap ratio is 1.3 for every share of T Ltd.

Find for both the situations X and Y:
(i) Post merger EPS.
(ii) Post merger market value per share.
(iii) Synergy due to merger.
(iv) Gain/loss for merger to shareholders of B Ltd. and T Ltd. (A) in value of share holdings and (B) in earnings available to them.   **[2+2+2+4=10]**

(b) Pure Drugs Limited is in the Pharmaceutical Industry and has a business strategy of growing inorganically. It is contemplating to acquire Solid Drugs Limited which has a strong hold in cardiac segment. Pure Drugs Limited has 30 crore shares outstanding which are trading on an average price of Rs. 300 while Solid Drugs Limited has outstanding shares 20 crore and are selling at an average price of Rs. 200 per share. The EPS are of Rs. 12 and Rs. 6 for Pure Drugs Limited and Solid Drugs Limited respectively. Recently, the management of both the companies had a meeting wherein number of alternative proposals was considered for exchange of shares. They are —
(i) Exchange Ratio should be in proportion to the relative EPS of two companies.
(ii) Exchange Ratio should be in proportion to the relative share prices of two companies.

(iii) Exchange Ratio should be 3 shares of Pure Drugs Limited for every 5 shares of Solid Drugs Limited.

You are required to estimate EPS and Market Price under the three options, assuming the P/E of Pure Drugs Limited after merger will remain unchanged. Assume that there will not be any synergy gains due the said merger. [5+5=10]

Answer:

(a)

	X			Y		
	B	T	Merged	B	T	Merged
EAT (Rs. lakh)	40	12.5	52.5	40	12.5	63
No. of Equity Shares (n) (Lakhs)	5	2		5	2	
P/E (Given)	12.5	20	15	12.5	20	12.5
EPS (EAT/n)	8	6.25		8	6.25	
P = Market value per share (P/E*EPS)	100	125		100	125	
Market Capitalization (MC) (n*P) (Rs. Lakh)	500	250	787.50	500	250	787.50
No. of shares to be issued to T (Lakh)#			2.5			2.6
No. of shares to Merged B Ltd. (n) [(5+2.5) & (5+2.6)] (Lakh)			7.5			7.6
EPS for Merged B Ltd. (EAT/N)$			7			8.29
Synergy (Merged Value - Aggregate MC) [787.5-(500+250)]			37.5			37.50
Share of Pre-merger B in Merged B			0.667			0.6579
Share of Pre-merger T in Merged B			0.333			0.3421
Value to B [share * merged MC]			525			518.09
Gain in Value to B [Value to B - MC of stand-alone B Ltd]			25			18.09
Value to T [share * merged MC]			262.5			269.41
Gain in Value to T [Value to T - MC of stand-alone T Ltd]			12.5			19.41
Share of Earnings from Merged B**	35	17.5	52.5	41.45	21.55	
Gain /(loss) [Earnings from Merged - Stand alone Earnings]	(5)	5	0	1.45	9.05	10.50
Market value per Share of Merged B [Merged MC/Merged Number of Shares] [787.5/7.5 & 787.5/7.6]			105			103.62

@ MC = EAT × P/E = 52.5 × 15 = 787.50 & 63 x 12.5 = 787.50

(125/100) × 2 = 2.5 for X and 1.3 × 2 =2.6 for Y

$ (52.5/7.5) = 7 for X and (63/7.6) = 8.29 for Y

** (0.667 × 52.5) = 35 (rounded off) for B and (0.333 × 52.5) = 17.5 (rounded off) for T under X;

(0.6579 × 63) = 41.45 (rounded off) for B and (0.3421× 63) = 21.55 (rounded off) for T under Y.

(b)

		Pure Drugs Limited	Solid Drugs Limited
EPS (Rs.)		12	6
No. of Outstanding Shares (in crores)		30	20
Net Profit (in Rs. crores)		360	120
Net Profit (in Rs. crores) after Acquisition		480	
Price of Share		300	200
P/E Ratio		25.00	33.33

	Alternative-I (Basis-EPS)	Alternative-II (Basis-Prices)	Alternative-III (Basis-3 shares for 5 shares)
Exchange Ratio (No. of Shares of Pure Drugs Limited for each share of Solid Drugs Limited)	0.50	0.67	0.60
New Shares to be issued (in Crores)	10	13.40	12
Total No. of Shares after Acquisition (in crores)	40 (30+10)	43.40 (30+13.40)	42 (30+12)
EPS (in Rs.) after Acquisition Given Rs. 480 crores of Profit Acquisition	12.00	11.06	11.43
Given the P/E Ratio of 25, the Share Price of Pure Drugs Limited will be - (in Rs.)	300.00	276.50	285.71

8.(a) Following is the Profit & Loss Account (extract) and Balance Sheet (extract) for M/s. X Ltd.

(Rs. in Lakhs)

	2018	2019
Turnover	652	760
Pre-tax accounting profit	134	168
Taxation	46	58
Profit after tax	88	110
Dividends	30	36
Retained earnings	58	74

Balance Sheet extracts are as follows:

(Rs. in Lakhs)

	2018	2019
Fixed Assets	240	312
Net Current Assets	260	320
Total	500	632
Equity Shareholders Funds	390	472
Medium and Long-term Bank Loan	110	160

The Company's performance in regard to turnover had increased by 17% along with increase in pre-tax profit by 25% but shareholders are not satisfied by the Company's preference in the last 2 years. You are required to calculate the Economic Value Added, as suggested by X Ltd., so that reasons of non-satisfaction can be evaluated.

You are also given:

Particulars	2018	2019
Pre-tax Cost of Debt	9%	10%
Cost of Equity	15%	17%
Tax rate	35%	35%
Interest Expenses (in lakhs)	Rs. 8	Rs.12

[10]

(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 Rs. lakhs)	**6.75**	**3.00**
EPS (in Rs.)	**3.97**	**5.00**
Number of shares (Lakhs)	**1.70**	**0.60**
P/E ratio	**20**	**5**

   (i)   What will be the EPS of B Co. Ltd. after the merger?

  (ii) What will be the PE ratio if the NPV of the acquisition is zero?

 (iii) What must B Co. Ltd. feel would be the value of the synergy between these firms?

[10]

Answer:

(a) Calculation of Return on Operating Capital (ROOC):

(Rs. in lakhs)

NOPAT	2018	2019
PBT	134	168
Add: Interest Expenses	8	12
	142	180
Less: Taxes @35%	49.7	63
NOPAT (A)	92.3	117
Operating Capital:		
Equity Shareholder's Funds	390	472
Long term Debt	110	160
Operating Capital (B)	500	632
ROOC=(A/B)×100	18.46%	18.51%

Calculation of Weighted Average Cost of Capital (WACC):

Particulars	2018	2019
K_d	9%(1-0.35)× 110/500	10%(1-0.35)× 160/632
	1.287%	1.646%
K_e	15%×(390/500)	17%×(472/632)
	11.7%	12.7%
WACC	1.287%+11.7%=12.99%	1.646%+12.7% = 14.35%
EVA:		
ROOC	18.46%	18.51%
Less: WACC	12.99%	14.35%
EVA Spread	5.47%	4.16%
EVA= Spread x Operating Capital	5.47% × Rs. 500 lakhs = 27.35Lakhs	4.16% × Rs. 632 lakhs = 26.29 Lakhs

Since EVA has declined in year 2019 by Rs. 1.06 Lakhs, this can be attributed as reason for non-satisfaction.

(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 = (Rs. 3,00,000 + Rs. 6,75,000) / [1,70,000 + (1/3)(60,000)] = (Rs. 9,75,000/ 1,90,000) = Rs. 5.13.

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 (Rs. 6.75 lakhs / 1.70 lakhs) = 20 x Rs. 3.97 = Rs. 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 = Rs. 79.40 / Rs. 5.132 = 15.47.

(iii) 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 Rs. 25 (MPS = P/E x EPS = 5 x Rs. 5 = Rs. 25)

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

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

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