PAPER 20 - STRATEGIC PERFORMANCE MANAGEMENT & BUSINESS VALUATION

PAPER 20 - STRATEGIC PERFORMANCE MANAGEMENT & BUSINESS VALUATION

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

(i) The Average Cost of a firm is given by the function Average Cost = $x^3 + 12x^2 - 11x$, its marginal cost will be:

a. $4x^3 + 36x^2 - 22x$

b. $x^4 + 12x^3 - 11x^2$

c. $x^3 + 12x^2 - 11x$

d. None of the above.

(ii) As per Altman's model, if the value of z-score of a firm falls between 1.81 and 2.99, then the firm will be:

a. Non-failed firm b. Failed firm

c. Mixture of failed and non-failed elements

d. None of the above.

(iii) The 5 S's concepts in Quality Management are:

a. SEIRI, SETOIN, SEISO, SEIKETSU, SHITSKUE

b. SEIRI, SEITON, SEISO, SEIKETSU, SHITSUKE

c. SEIRI, SETOIN, SEISO, SEIKESTU, SHITSUKE

d. SIERI, SETOIN, SEISO, SEIKETSU, SHITSUKE.

(iv) A successful TQM program incorporates all of the following except:

a. continuous improvement

b. employment involvement

c. benchmarking

d. centralized decision making authority.

(v) Performance will be a product of:

a. Efficiency and Utilization

b. Utilization and Productivity

c. Efficiency and Productivity

d. Efficiency, Utilization and Productivity

Answer: 1.

(i) (a) Average Cost = $x^3 + 12x^2 - 11x$

Total Cost (C) = $x^4 + 12x^3 - 11x^2$

Marginal Cost = dc/dx = $4x^3 + 36x^2 - 22x$.

(ii) (c) As per Altman's model, if the value of z-score of a firm falls between 1.81 and 2.99, then the firm will be mixture of failed and non-failed elements.

(iii) (b) The 5 S's concepts in Quality Management are — SEIRI, SEITON, SEISO, SEIKETSU, and SHITSUKE. These all are Japanese words and used to focuses on quality improvement in an organization.

(iv) (d) A successful TQM program incorporates continuous improvement, employment involvement, benchmarking etc.

(v) (d) Efficiency, Utilization & Productivity, since this option fully covers all aspects of Performance.

2. (a) Discuss the concept of Performance Management and also discuss about the components of Performance Management. [3+7=10]

(b) What is Total Quality Management (TQM)? What are the steps to be taken in the implementation of TQM? [2+8=10]

Answer: 2(a)

Concept of Performance Management: Performance management is a continuous process of identifying, measuring and developing performance in organizations by linking each individual's performance and objectives to the organization's overall mission and goals. 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. Components of Performance Management:

1. Performance Planning: Performance planning is the first crucial component of any performance management process which forms the basis of performance appraisals. Performance planning is jointly done by the appraiser and the reviewer in the beginning of a performance session. During this period, the employees decide upon

the targets and the key performance areas which can be performed over a year within the performance budget, which is finalized after a mutual agreement between the reporting officer and the employee.

2. Performance Appraisal and Reviewing: The appraisals are normally performed twice in a year in an organization in the form of mid reviews and annual reviews which is held at the end of the financial year. In this process, the appraise first offers the self-filled up ratings in the self-appraisal form and also describes his/her achievements over a period of time in quantifiable terms. After the self-appraisal, the final ratings are provided by the appraiser for the quantifiable and measurable achievements of the employee being appraised. The entire process of review seeks an active participation of both the employee and the appraiser for analyzing the causes of loopholes in the performance and how it can be overcome.

3. Feedback on the Performance followed by personal counselling and performance facilitation: Feedback and counselling is given a lot of importance in the performance management process. This is the stage in which the employee acquires awareness from the appraiser about the areas of improvements and also information on whether the employee is contributing the expected levels of performance or not. The employee receives an open and a very transparent feedback and along with this the training and development needs of the employee is also identified. The appraiser adopts all the possible steps to ensure that the employee meets the expected outcomes for an organization through effective personal counseling and guidance, mentoring and representing the employee in training programs which develop the competencies and improve the overall productivity.

4. Rewarding good performance: This is a very vital component as it will determine the work motivation of an employee. During this stage, an employee is publicly recognized for good performance and is rewarded. This stage is very sensitive for an employee as this may have a direct influence on the self-esteem and achievement orientation. Any contributions duly recognized by an organization helps an employee in coping up with the failures successfully and satisfies the need for affection.

5. Performance Improvement Plans: In this stage, fresh set of goals are established for an employee and new deadline is provided for accomplishing those objectives. The employee is clearly communicated about the areas in which the employee is expected to improve and a stipulated deadline is also assigned within which the employee must show this improvement. This plan is jointly developed by the appraise and the appraiser and is mutually approved.

6. Potential Appraisal: Potential appraisal forms a basis for both lateral and vertical movement of employees. By implementing competency mapping and various assessment techniques, potential appraisal is performed. Potential appraisal provides crucial inputs for succession planning and job rotation.

Answer: 2(b)

Total Quality Management (TQM) is an active approach encompassing a company-wide operating philosophy and system for continuous improvement of quality. It demands cooperation from everyone in the company, from the top management down to workers. TQM seeks to increase customer satisfaction by finding the factors that limit current performance. The TQM approach highlights the need for a customer-oriented approach to management reporting, eliminating some or more of traditional reporting practices. The various stages/steps to be taken in the implementation of TQM are as follows:

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

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

Stage 3: Identifying customer decision-making requirements and product utilities: By identifying the need to stay close to the customers and follow their suggestions, a decision - support system can be developed, incorporating both financial and nonfinancial information, which seeks to satisfy used requirements.

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

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

Stage 6: Customer Feedback: Stages 1 to 5 provide a information base developed without reference to the customer. This is rectified at Stage 6 with a survey of representative customers, which embraces their views on perceived problem areas. Interaction with the customers and obtaining their views helps the Firm in correcting its own perceptions and refining its process.

Stage 7: Identification of improvement opportunities: The outcomes of the customer survey, benchmarking and internal analysis, provides the inputs for stages 7 i.e., the identification of improvement opportunities.

Stage 8: Implementation of Quality Improvement Process: Implementation of Quality Improvement Process through – i) Determination of new strategies, ii) Elimination of deficiencies, and iii) Identifying solutions.

3. (a) The total cost function of a manufacturing firm is given by C = 2x3 – x² + 3x + 5 and the Marginal Revenue = 8 – 3x, X = output, determine the most profitable output of the firm. [10]

(b) Using Altman's Model (1968) of Corporate Distress Prediction, calculate the Z-score of S & Co. Ltd., whose five accounting ratios are given as below and comment on its financial position.
The five variables are:
(i) Working Capital to Total Assets =25%
(ii) Retained Earnings to Total Assets = 30%
(iii) EBIT to Total Assets = 15%
(iv) Market Value of Equity Shares to Book Value of Total Debt =150%
(v) Sales to Total Assets = 2 times. [10]

Answer: 2(a)

$C = 2x^3 - x^2 + 3x + 5$

$MR = 8 - 3x$

$MC = \frac{dc}{dx} = 6x^2 - 2x + 3$

Profit maximum at MC = MR

$6x^2 - 2x + 3 = 8 - 3x$

$6x^2 + x - 5 = 0$

$6x^2 + 6x - 5x - 5 = 0$

$6x(x+1) - 5(x+1) = 0$

$(x+1)(6x-5) = 0$

$x = -1$

$6x - 5 = 0$

$x = \frac{5}{6}$

most profitable output of the firm is 5/6

Answer: 3(b)

As per Altman 's Model (1968) of Corporate Distress Prediction:

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

Given 5 variables are:

x_1 = Working Capital to Total Assets = 25%

x_2 = Retained earnings to total Assets = 30%

x_3 = EBIT to Total Assets = 15%

x_4 = Market Value of Equity Shares to Book Value of Total Debts = 150%

x_5 = Sales to Total Assets = 2 times

Hence, Z -score = $(1.2 \times 25\%) + (1.4 \times 30\%) + (3.3 \times 15\%) + (0.6 \times 150\%) + (1 \times 2)$

$= 0.30 + 0.42 + 0.495 + 0.90 + 2.00 = 4.115.$

Comments on the Financial position: As the calculated value of Z-score is much higher than 2.99, it can be strongly predicted that the company is a non-bankrupt company.

4. (a) "To be effective, any Enterprise Risk Management (ERM) implementations should be integrated with strategy-setting". Do you agree? Give your views bringing out the basic elements of ERM and the reasons why ERM is implemented. [5+5=10]

(b) (i) State the objectives of MIS (Management Information System). [6]

(ii) Write a short note on OLAP Server. [4]

Answer: 4(a)

To be effective, any Enterprise Risk Management (ERM) implementations should be integrated with strategy-setting‖. To my mind, this statement is true. In today's challenging business environment, opportunities and risks are constantly changing, giving rise to the need for identifying, assessing, managing and monitoring the organization's business opportunities and risks. This, in turn, necessitates establishing the linkage between the opportunities and risk while managing the business. This requirement is addressed by ERM, which redefines the value proposition of risk management by elevating its focus from the 'tactical' to the 'strategic'. ERM is about designing and implementing capabilities for managing the risks that matter. In the light of this, the statement is correct and therefore acceptable.

Basic Elements of ERM:

The following are the basic element of ERM;

I. A process, ongoing and flowing through an entity.
II. Effected by people at every level of an organization.
III. Applied in strategy setting.
IV. Applied across the enterprise, at every level and unit and includes taking an entry level view of risk.
V. Designed to identify potential events affecting the entity and manage risk within the risk appetite
VI. Able to provide reasonable assurance to an entity 's management.
VII. Geared to the achievement of objectives in one or more separate but overlapping categories. It is a means to an end, not an end in itself.

Need for Implementation of ERM: ERM needs to be implemented for the following reasons:

i. Reduce unacceptable performance variability.
ii. Align and integrate varying views of risk management
iii. Build confidence of investment community and stakeholders,
iv. Enhance corporate governance.
v. Successfully respond to a changing business environment
vi. Align strategy and corporate culture

Traditional risk management approaches are focused on protecting the tangible assets reported on a company's Balance Sheet and the related contractual rights and obligations. The emphasis of ERM, however, is on enhancing business strategy. The scope and application of ERM is much broader than protecting physical and financial assets. With an ERM approach, the scope of risk management is enterprise-wide and the application of risk management is targeted to enhancing as well as protecting the unique combination of tangible and intangible assets comprising the organization's business model.

Answer: 4(b)(i)

The objectives of Management Information System (MIS):

1. To provide the managers at all levels with timely and accurate information for control of business activities
2. To highlight the critical factors in the operation of the business for appropriate decision making
3. To develop a systematic and regular process of communication within the organization on

performance in different functional areas
4. To use the tools and techniques available under the system for programmed decision making
5. To provide best services to customers
6. To gain competitive advantage
7. To provide information support for business planning for future.

Answer: 4(b)(ii)

OLAP Server: An OLAP server is a high-capacity, multi-user data manipulation engine specifically designed to support and operate on multi-dimensional data structures. A multi-dimensional structure is arranged so that every data item is located and accessed based on the intersection of the dimension members which define that item. The design of the server and the structure of the data are optimized for rapid ad hoc information retrieval in any orientation, as well as for fast, flexible calculation and transformation of raw data based on formulaic relationships. The OLAP Server may either physically stage the processed multi-dimensional information to deliver consistent and rapid response times to end users, or it may populate its data structures in real-time from relational or other databases, or offer a choice of both. Given the current state of technology and the end user requirement for consistent and rapid response times, staging the multi-dimensional data in the OLAP Server is often the preferred method.

Section - B

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

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

(i) DCF analysis requires the revenue and expenses of:
a. Past
b. Future
c. Past &
future d. None
of these.

(ii) The Current ratio of A Ltd. is 2:1, while quick ratio is 1.8:1. If the current liabilities are ₹ 40,000, value of stock is:
a. ₹ 5000
b. ₹ 8000
c. ₹ 6000
d. None of the above.

(iii) Kalinga Cements Ltd. earned free cash flow to Equity Shareholders during the financial year ending 2023 at 4.5 lakhs and its cost of equity is 13% with a projected earnings growth rate of 10%. The market value of debt is 50 lakhs. The

value of firm as per constant Growth Valuation Model will be:

a. ₹ 45,00,000

b. ₹ 1,45,000

c. ₹ 1,50,000

d. ₹ 1,65,000.

(iv) It is assumed that M. Ltd. would realize ₹ 40 million from the liquidation of its assets. It pays ₹ 20 million to its creditors and Preference Shareholders in full and final settlement of their claims. If the number of Equity Shares of M. Ltd. is 2 million, the Liquidation per share would be:

a. ₹ 10,000

b. ₹ 12,250

c. ₹ 13,500

d. ₹ 15,000.

(v) Dividend yield is the dividend per share as a percentage of the of operating cash flows:

a. Book value

b. Market value

c. Both of the above

d. None of the above.

Answer: 5

(i)	(b)	Future [DCF analysis use future cash flow projections and discounts them using a required annual rate to arrive at present value estimate].
(ii)	(b)	8000 [CA ($current\ Assets$)/ CL ($Current\ Liabilities$)] = 2:1 CA = 2CL $CA{-}Stock$ CL = 1.8 CA-Stock = 1.8CL 2CL – Stock = 1.8CL Stock = 2CL – 1.8CL Stock = 0.2 (40000) Stock = 8000
(iii)	(d)	₹ 1,65,00,000. According to the constant growth valuation model, V0 = $(FCFF)_1$ /(K_e-g) Where $FCFF_1$ = $FCFF_0$(1+g) V0

		= 4,50,000 x 1.10/(0.13-0.10) V_0 = 495000/0.03 V_0 = ₹ 1,65,00,000
(iv)	(b)	₹ 10 per share. Liquidation/share = (₹ 40 million - ₹ 20 million)/ 2 million = ₹ 10 per share.
(v)	(b)	Market Value [Dividend Yield is the financial ratio that measures the quantum of cash dividends paid out to shareholders relate to the market value per share].

6.(a) Firm A acquires Firm B. As of date Firm B has accumulated losses of ₹ 1,000 Lakhs. Firm A is well managed company with a good profit record. The projected profits before taxes, of Firm A, for the next three years are given in the table:

Year	**Amount in Lakhs (₹)**
1	**350**
2	**500**
3	**700**

Assuming corporate tax rate of 35 per cent and discount rate of 12 per cent, Determine the present value of tax gains likely to accrue on account of merger to A. [10]

(b) If, Earnings per share: ₹ 3.15;
Capital Expenditure per share: ₹ 3.15.
Depreciation per share: ₹ 2.78
Change in working capital per share: ₹ 0.50
Debt financing ratio: 25%
Earnings, Capital expenditure, Depreciation, Working Capital are all expected to grow at 6% per year. The beta for stock is 0.90. Treasury bond rate is 7.5%. A premium of 5.50% is used for market. Calculate value of stock. [10]

Answer: 6(a)

Present Value (PV) of Tax Shield:

Particulars	Year -I	Year -II	Year-III
PBT(A)	₹ 350	₹ 500	₹ 700
Less : Adjustment against loss of Firm B / Reduction in taxable income (B)	₹ 350	₹ 500	₹ 150
Reduction in tax payments [(B) × 0.35]	₹ 122.5	₹ 175	₹ 52.5
Multiple by PV factor at 12%	0.893	0.797	0.712

Total PV of tax shield is ₹ 286.24 Lakh [(C) × PV Factor]	₹ 109.39	₹ 139.47	₹ 37.42

₹ 1,000 Lakh accumulated loss of Firm B – ₹ 350 Lakh and ₹ 500 Lakh adjusted in years 1 and 2 respectively). Firm A gains ₹ 286.24 Lakh in terms of tax savings on acquisition of Firm B.

Answer: 6(b)

Estimating Value:

Long term bond rate 7.5%

Cost of equity = 7.5% + (0.80 x 5.50%) = 11.9%

Expected growth rate 6%

Base year FCFE = Earnings per share – (Capital Exp. – Dep.) (1 – Debt Ratio) – Change in working capital (1 – Debt Ratio)

=3.15 – (3.15 – 2.78) (1 – 0.25) – 0.50 (1 – 0.25)

=2.49

Value per share = 2.49 x 1.06 / (0.119 – 0.06) = ₹ 44.74.

7. (a) The following information is provided in relation to the acquiring firm M Ltd. and the target firm P Ltd.

Particular	**M Ltd.**	**P Ltd.**
Earnings after tax (₹)	**200 lakhs**	**40 lakhs**
Number of shares outstanding	**20 lakhs**	**10 lakhs**
P /E Ratio	**10**	**5**

Required:

(i) What is the swap ratio in terms of current market price?

(ii) What is the EPS of M Ltd. after acquisition?

(iii) What is the expected market price per share of M Ltd. after acquisition assuming that P / E ratio of M Ltd. remains unchanged?

(iv) Determine the market value of the merged firm. [8]

(b) Two firms RAJJAN and REKHA Corporation operate independently and have the following financial statements:

Particular	**RAJJAN**	**REKHA**
Revenues	**8,00,000**	**4,00,000**
Cost of Goods Sold (COGS)	**6,00,000**	**2,40,000**
EBIT	**2,00,000**	**1,60,000**
Expected growth rate	**6%**	**8%**
Cost of capital	**10%**	**12%**

Both firms are in steady state, with capital spending offset by depreciation. No working capital is required, and both firms face a tax rate of 40%. Combining the two firms will create economies of scale in the form of shared distribution and advertising cost, which will reduce the cost of goods sold from 70% of revenues to 65% of revenues. Assume that the firm has no debt capital. Estimate:

(i) The value of the two firms before the merger;

(ii) The value of the combined firm with synergy effect. [12]

Answer: 7(a)

EPS before acquisition:

Big Ltd. 2,00 lakhs/20 lakhs = 10

and Tall Ltd. 40 lakhs/10 lakhs = 4

Market price of share before an acquisition = EPS×PE ratio:

Big Ltd. 100 and Tall Ltd. 20

(i) Swap ratio based on current market prices: ₹ 20/₹ 100 = 0.2 that is one share of Big limited for 5 shares of Tall limited. Number of shares to be issued 100 lakhs × 0.2 = 20 lakhs

(ii) EPS after acquisition = (200 lakhs + 40 lakhs) ÷ (200 lakhs + 20 lakhs) = 10.91

(iii) Expected market price per share of Big Ltd. After an acquisition after assuming PE ratio of Big limited remains unchanged is 10.91 × 10 =109.10

(iv) Market value of Merged Firm = 109.10 × 220 lakh shares = 240.02 crores

(v) Gain from the merger:

Post-merger market value of merged firm 240.02 Crores (minus pre -merger market value of both firms i.e. 200 crores and 20 crores) = (240.02 – 220.00) = 20.02 crores

Gain to shareholders of both the firms:	Big Ltd.	Tall Ltd.
Post-merger value	218.20	21.80
Less: Pre-merger value	200.00	20.00
Gain to shareholders	18.20	1.82

Answer: 7(b)

(i) Value of the Firms before the Merger

Calculation of Free Cash Flow to each of the Firm Free cash flow to RAJJAN

= EBIT (1 – tax rate) = 2,00,000 (1 – 0.4)

= 1,20,000 Free cash flow to REKHA

= EBIT (1 – tax rate)

= 1,60,000 (1 – 0.4) = 96,000

Value of the two firms independently

Value of RAJJAN = [1,20,000 (1.06)] / (0.10 – 0.06) = 31,80,000

Value of REKHA = [96,000 (1.08)] / (0.12 – 0.08) = 25,92,000

In the absence of synergy, the combined firm value is:

Combined Firm Value with No Synergy = 31,80,000 + 25,92,000 = 57,72,000

(ii) Value of the Firm with Synergy

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

The revenue of the combined firm = 8,00,000 + 4,00,000 = 12,00,000

Cost of goods sold = 65% of revenues = 0.65 × 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	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.

8. (a) You are given following information about Sandeep Ltd.:

(i) Beta for the year 2022-23: 1.05

(ii) Risk free rate 12%

(iii) Long Range Market Rate (based on BSE Sensex): 15.14%

(iv) Extracts from the liabilities side of balance sheet as at 31st March, 2023:

	₹
Equity	**29,160**
Reserve & Surplus	**43,740**
Shareholder’s Fund	**72,900**
Loan Funds	**8,100**
Total Funds (Long term)	**81,000**

(v) Profit after tax ₹ 20,394 .16 lakhs

(vi) Interest deducted from profit ₹487.00 lakhs

(vii) Effective tax rate (i.e. Provision for Tax/PBT x 100) 24.45%.

Calculate Economic Value Added of Sandeep Ltd. as on 31st March 2023. [10]

(b) Given below is the Balance Sheet (Extract) of S Ltd. as on 31.03.2023

Liabilities	₹ (in lakhs)	Assets	₹ (in lakhs)
Share capital (Share of ₹ 10)	100	Land and building	40
Reserve and Surplus	40	Plant and machinery	80
Creditors	30	Investments	10
		Stock	20
		Debtors	15
		Cash at bank	5
	170		170

You are required to work out the value of the Company's shares on the basis of Net Asset method and Profit-earning capacity (capitalization) method and arrive at the fair price of the shares, by considering the following information:

1. **Profit for the current year ₹ 64 lakhs include ₹ 4 lakhs extraordinary income and ₹ 1 lakh income from investments of surplus funds; such surplus funds are unlikely to recur.**
2. **In subsequent years, additional advertisement expenses of ₹ 5 lakhs are expected to be incurred each year.**
3. **Market value of Land and Building & Plant and Machinery has been ascertained at ₹ 96 lakhs and ₹ 100 lakhs respectively. This will entail additional depreciation of ₹ 6 lakhs each year.**
4. **Effective Income-tax rate is 30%.**
5. **The capitalization rate applicable to similar businesses is 15%. [10]**

Answer: 8(a)

We know that EVA = NOPAT -Cost of Capital Employed,

Where, EVA = Economic Value Added

NOPAT = Net Operating Profit after tax

Required Calculations are as under:

(i) NOPAT

particulars	
Profit after tax	20,394.16 lakhs
Add: Interest Net of tax [487 lakh (1 - 0.2445)] = 487 lakh x 0.7555	367.93 lakhs

NOPAT	20,762.09 lakhs

(ii) Cost of Equity: Risk free rate + β [Market rate - Risk free return]

= 12% + 1.05 (15.14% - 12%)

= 12% + 1.05 x 3.14

= 12% + 3.30%

= 15.30%

(iii) Cost of Debt = [Interest on Loan Funds (1 - tax rate) / Loan Funds] x 100

Cost of Debt = [487 x (1-0.2445) /8100] x 100

= [487 x 0.7555/ 8100] x 100

= [367.93/8100] x 100

= 4.54

Weighted Average Cost of Capital:

	Amount in Lakhs (₹)	Weight	Cost	WACC%
Equity	72,900	0.90	15.30	13.77
Debt	8,100	0.10	4.54	0.45
	81,000	1.00		14.22

Cost of capital employed
= ₹ 81,000 x 14.22%
= ₹11,518.20 lakhs

EVA = NOPAT – Cost of Capital Employed
= ₹ 20,726.09 lakhs - ₹ 11,518.20 lakhs
= ₹ 9,207.89 lakhs.

Answer: 8(b)

Assets	(₹ in lakhs)
Land and Building	96
Plant and Machinery	100
Investments	10
Stock	20
Debtors	15
Cash at Bank	5
Total Assets	246
Less : Creditors	30
Net Assets	216

Value per Share
Number of Shares = 100 lakhs/10 = 10 lakhs
Value per share = Net Assets/No. of shares = 216 lakhs/10 lakhs = 21.60

Profit Earning Capacity Method

Particulars	(in lakhs)
Profit before tax	64
Less : extraordinary income	4
Less : Investment income not likely to recur	1
Less : additional expenses for forthcoming years- Advertisement	5
Less : depreciation on revaluation	6
Expected Earnings before taxes	48
Less : income taxes@ 30%	14.4
Future Maintainable Profit	33.6

Value of business = Future Maintainable profit / Capitalization factor
= 33.6/0.16
= 210 lakhs

Subtracting external liabilities, we get Net value of business.

Value of share would be Net value of Business divided by number of shares = (210 Lakhs - 30 lakhs)/10 lakhs = 18.00

Computation of Fair Price of share

Particulars	
Value as per net assets method	21.6
Value as per profit earning capacity(Capitalization) method	18.0
Fair price = Average of the above two = (21.60+18.0) ÷ 2	19.80 per share