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 Law of Demand states that "demand varies inversely with price, not necessarily proportionately". Which of the following is not the exception of it?
         (a) Giffen Paradox
         (b) Complementary goods
         (c) Speculative Business
         (d) Prestigious goods.

   (ii) As per Basel III regulation, which of the following ratio is proposed to measure liquidity standard?
         (a) Net stable funding ratio
         (b) Acid test ratio
         (c) Current ratio
         (d) Net asset ratio.

   (iii) Customer Relationship Management is about:
         (a) Acquiring the right customer
         (b) Instituting the best processes
         (c) Motivating employees
         (d) All of the above.

   (iv) In case of du-pont analysis, which one of the following is not considered while calculating return on equity?
         (a) Profit Margin
         (b) Asset Turnover
         (c) Debt margin
         (d) Equity Multiplier.

   (v)   An organization buys its rival's products and tears down to find out the features, performances etc., to compare with its products, is called:
         (a) Competitive Benchmarking
         (b) Product Benchmarking
         (c) Strategic Benchmarking
         (d) Process Benchmarking.

Answer:

(i) (b) In the case of complementary goods, if the price of a commodity decreases the demand for its complementary goods will increase. In other three cases, the demand does not decrease with the rise in the price of that product.

(ii) (a) As per Basel III regulation, two liquidity standards/ ratios are proposed — Liquidity coverage ratio (LCR) which is the ratio of Liquid assets to net cash outflow for short term (30 days) liquidity management and Net stable funding ratio (NSFR) which is the

ratio of available stable fund to required stable fund for long term structural liquidity mismatches.

(iii) (d) Customer Relationship Management is about acquiring the right customer, instituting the best processes, motivating employees, communication between marketing, sales and services etc.

(iv) (c) Both the profitability (as measured in terms of profit margin) and efficiency (as measured in terms of asset turnover) determine return on assets (ROA). This ROA along with the company's financial leverage (as measured in terms of its equity multiplier), contributes to the return on equity.

(v) (b) In case of product benchmarking or Reverse Engineering, an organization buys its rival's products and tears down to find out the features, performances etc., to compare with its products.

2.(a) What is Supply Chain Management? Describe how a supply chain management is developed to introduce a new product in the market.   [4+6=10]

(b) What types of informations required for performance measurement under Balanced Scorecard (BSC)? Write down any six benefits of the Balanced Scorecard.   [4+6=10]

Answer:

(a) Supply Chain Management encompasses the planning and management of all activities involved in sourcing, procurement, conversion and logistics management activities. Importantly, it also includes coordination and collaboration with channel partners, which can be suppliers, intermediaries, third party service providers, and customers. In essence, Supply chain Management integrates supply and demand management within and across companies.

The Supply Chain Management Program integrates topics from manufacturing operations, purchasing, transportation, and physical distribution into a unified program.

In a typical supply chain, raw materials are procured and items are produced at one or more factories, shipped to warehouses for intermediate storage, and then shipped to retailers or customers. Consequently, to reduce cost and improve service levels, effective supply chain strategies must take into account the interactions at the various levels in the supply chain. The supply chain , which is also referred to as the Logistic Network, consists of suppliers, manufacturing centers, warehouses, distribution centers, and retail outlets, as well as raw material, work –in- process inventory, and finished product that flow between the facilities.

Thus, we can define the Supply Chain Management as: It is a set of approaches utilized to efficiently integrate suppliers, manufactures, warehouses and stores, so that merchandise is produce and distributed at the right quantities, to the right locations, and at the right time, in order to minimize system wide costs while satisfying service level requirements.

Development of Supply Chain Management: The development of chain is the set of activities and processes associated with new product introduction. It includes the product design phase, the associated capabilities and knowledge that need to be developed internally, sourcing decisions and production Plans. Specifically, the development chain includes decisions such as product architecture; what to make internally and what to buy from outside suppliers, that is, make /buy decisions; supplier selection; early supplier involvement; and strategic partnerships.

The development and supply chains intersect at the production point. It is clear that the characteristics of and decisions made in the development chain will have an impact on the Supply Chain. Similarly, it is intuitively clear that the characteristics of the supply chain must have an impact on product design strategy and hence on the development chain.

To make matters worse, in many organizations, additional chains intersect with both the development and the supply chains. These may include the reverse logistics chain, that is, the chain associated with returns of products or components, as well as the spare – parts chain.

Global optimization is made even more difficult because supply chains need to be designed for, and operated in, uncertain environments, thus creating sometimes enormous risks to the organization. A variety of factors contribute to this, such as:

1. Matching Supply and Demand: It is a major challenge. This difficulty stems from the fact those months before demand is realized; manufacturers have to commit themselves to specific production levels. These advance commitments imply huge financial and supply risks.
2. Inventory and back – Order levels fluctuate considerably across the supply chain: Even when customer demand for specific products does not vary greatly. To illustrate this issue, consider a typical supply chain, where distributors' orders to the factory fluctuate far more than the underlying retailer demand.
3. Forecasting does not solve the problem: Indeed, we will argue that the first principle of forecasting is that "Forecasts are always wrong." Thus, it is impossible to predict the precise demand for a specific item, even with the most advanced forecasting technique.
4. Demand is not the only source of uncertainty: Delivery leads times, manufacturing yields, transportation times, and component availability also can have significant chain impact.
5. Recent trends such as lean manufacturing, outsourcing and off shoring that focus on cost reduction increases risk significantly.

For example, consider an automotive manufacturer whose parts suppliers are in Canada and Mexico. With little uncertainty in transportation and a stable supply schedule, parts can be delivered to assembly plants "Just –In- Time" (JIT) based on fixed production schedules. However, in the event of an unforeseen disaster, such as the September '11 terrorist attacks, Port strikes, January, 26, 2001 earth quake in the India, state of Gujarat, etc, JIT is not maintainable.

Although, uncertainty and risk cannot be eliminated, product design, network modeling, information technology, procurement and inventory strategies are used to minimize uncertainty, and to build flexibility and redundancy in the supply chain in order to reduce risks.

(b) Information required for Performance Measurement under Balanced Scorecard (BSC): The main types of information required by the managers to implement the balanced scorecard approach to performance measurement are:

Customer Perspective - How do customer see us - Price, quality, delivery, customer support etc.

Internal Perspective - Where we must excel at - Efficiency of manufacturing process, sales penetration, new production introduction, skilled manpower etc.

Learning and Growth Perspective - Can we continue to improve and create value - Technology leadership, cost leadership, market leadership, research and development, cost reduction, etc.

Financial Perspective - How do we look to the shareholders - Sales, cost of sales, return on capital employed, profitability, prosperity etc.

Benefits of the Balanced Scorecard (BSC): An organization can derive the following benefits by implementation of BSC:

- It avoids management reliance on short-term financial measures.
- It can successfully communicate corporate strategy to the functional heads and organization's subunits and forcing them to develop their own goals to achieve the corporate mission and goals.
- It can assist stakeholders in evaluating the firm, if measures are communicated externally.
- It helps in focusing the whole organization on the few key things needed to create breakthrough performance.
- It helps to integrate various corporate programs like re-engineering, customer service initiatives.
- It breaks down strategic measures towards lower levels, so that unit managers, operators and employees can see what is required at their level to achieve excellent overall performance.
- It helps in clarifying and updating budgets.
- It helps in identifying and aligning strategic initiatives.
- It helps in conduct of periodic performance reviews to learn about and improve strategy.

3.(a) A radio manufacturer produces 'x' sets per week at total cost of ₹ $x^2 + 78x + 2500$. He is a monopolist and the demand function for his product is $x = \dfrac{(600 - P)}{8}$, when the price is 'p' per set. Show that maximum net revenue is obtained when 29 sets are produced per week and what is the monopoly price?   **[8+2=10]**

(b) The symptoms of corporate failure are interrelated — Mention the symptoms and describe how these are interrelated. State the purposes of the five selected ratio of Altman's Z-score model.   **[1+6+3=10]**

Answer:
(a) Cost (C) = $x^2 + 78x + 2500$

Demand (D) X = (600 – P) / 8

8x = 600 – P

∴ P = 600 – 8x

Total Revenue per 'x' sets

Price = $600x – 8x^2$

Maximum revenue is obtains at MC = MR

Marginal Cost = $\dfrac{dc}{dx}$ = 2x + 78 ----------- (i)

Marginal Revenue = $\dfrac{dr}{dx}$ = 600 – 16x ------------------- (ii)

Equating (i) & (ii),

2x +78 = 600 – 16x

or, 18x = 522

∴ x = $\dfrac{522}{18}$ = 29

Monopoly price = 600 – 8x

= 600 – 8 × 29

= 600 – 232 = 368.

(b) There are three classic symptoms of corporate failure. These are namely:
1. Low profitability
2. High gearing
3. Low liquidity

Each of these three symptoms may be indicated by trends in the company's accounts. Symptoms are interrelated. The classic path to corporate failure starts with the company experiencing low profitability. This may be indicated by trends in the ratios for:

• Profit margin
• Return on Capital Expenditure
• Return on Net Assets

A downward trend in profitability will raise the issue of whether and for how long the company can tolerate a return on capital that is below its cost of capital. If profitability problems become preoccupying, the failing of the company may seek additional funds and working capital by increasing its borrowings, whether in the form of short term or long-term debt. This increases the company's gearing, since the higher the proportion of borrowed funds, the higher the gearing within the capital structure. The increased debt burden may then aggravate the situation, particularly if the causes of the decreasing profitability have not been resolved.

The worsening profit situation must be used to finance an increased burden of interest and capital repayments. In the case of a publicly quoted company, this means that fewer and fewer funds will be available to finance dividend payments. It may become impossible to obtain external credit or to raise further equity funds.

Confidence in the company as an investment may wither away leaving the share price to collapse. If the company is sound, for instance, but ineptly managed, the best that can be hoped for is a takeover bid for what may be now a significantly undervalued investment.

At this point, a company may not be really failing but unfortunately, more often rescue attempts are not mounted. This may be because the company's management does not recognize the seriousness of the situation, or is by now too heavily committed or too frightened to admit the truth to its stakeholders, when refinancing is attempted profits fail to cover payments leading to a cash flow crisis.

The purposes of the five selected ratio of Altman's Z-score model: The purposes of these five selected ratios are as follows:

(i) To measure liquidity position of the firms.

(ii) To measure reinvestment of earnings of the firms.

(iii) To measure profitability of the firms.

(iv) To measure financial leverage condition of the firms.

(v) To measure sales-generating ability of firm's Assets.

4.(a) What is Risk Management? State the objectives of it. State how risk is reduced through diversification in the context of enterprise risk management. Write the benefits of diversification for reduction of risk. [2+3+3+2=10]

(b)(i) Financial analysis involves the use of financial statements. What are those basic financial statements to analyse financial data of a firm? [6]
(ii) Write short note on — OLAP Server [4]

Answer:

(a) Risk management is the process of measuring or assessing risk and developing strategies to manage it. Risk management is a systematic approach in identifying, analyzing and controlling areas or events with a potential for causing unwanted change. It is through risk management that risks to any specific program are assessed and systematically managed to reduce risk to an acceptable level. Risk management is the act or practice of controlling risk. It includes risk planning, assessing risk areas, developing risk handling options, monitoring risks to determine how risks have changed and documenting overall risk management program.

Risk management basically has the following objectives:

1. Anticipating the uncertainty and the degree of uncertainty of the events not happening the way they are planned.
2. Channelizing events to happen the way they are planned.
3. Setting right, at the earliest opportunity, deviations from plans, whenever they occur.
4. Ensuring that the objective of the planned event is achieved by alternative means, when the means chosen proves wrong, and
5. In case the expected event is frustrated, making the damage minimal.

Risk Reduction through Diversification: The important principle to consider that in an efficient capital market, investors should not hold all their eggs in one basket; they should hold a well-diversified portfolio. In order to diversify risk for the creation of an efficient portfolio (one that allows the firm to achieve the maximum return for a given level of risk or to minimize risk for a given level of return), the concept of correlation must be understood. Correlation is a statistical measure that indicates the relationship, if any, between series of numbers representing anything from cash flows to test data. If the two-series move together, they are positively correlated; if the series move in opposite directions, they are negatively correlated. The existence of perfectly correlated (especially negatively correlated) projects is quite rare. In order to diversify project risk and thereby reduce the firm's overall risk, the projects that are best combined or added to the existing portfolio of projects are those that have a negative (or low positive) correlation with existing projects.

Benefits of Diversification: The gains in risk reduction from portfolio diversification depend inversely upon the extent to which the returns on securities in a portfolio are positively correlated. Ideally the securities should display negative correlation. This implies that if a

pair of securities has a negative correlation of returns, then in circumstances where one of the securities is performing badly the other is likely to be doing well and vice versa in reverse circumstances. Therefore the 'average' return on holding the two securities is likely to be much 'safer' than investing in one of them alone.

(b)(i) The term 'financial statements' generally refers to three basic statements: Balance Sheet, Income Statement & Cash-Flow Statement.

- Balance Sheet shows the financial position (condition) of the firm at a given point of time. It provides a snapshot and may be regarded as a static picture. "Balance sheet is a summary of a firm's financial position on a given date that shows Total assets = Total liabilities + Owner's equity."

- Income Statement (referred to in India as the profit and loss statement) reflects the performance of the firm over a period of time. "Income statement is a summary of a firm's revenues and expenses over a specified period, ending with net income or loss for the period."

- Cash-Flow Statement depicts cash accrual for the period under consideration. It can be prepared either by direct method of receipts & payments or by indirect method of adjusting increase or decrease in liabilities & non-cash assets to profit or loss. Direct method is simple and easier to understand while indirect method is more informative (since it combines Balance-Sheet & Income Statement). Indirect method is widely adopted for management information, besides compliances under various Statutes [Indian Companies Act, SEBI rules, FEMA guidelines for share valuation against Foreign Direct Investment (FDI), etc].

(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.

The core of any OLAP system is an OLAP cube (also called a 'multidimensional cube' or a hypercube). It consists of numeric facts called measures which are categorized by dimensions. The measures are placed at the intersections of the hypercube, which is spanned by the dimensions as a Vector space. The usual interface to manipulate an OLAP cube is a matrix interface like Pivot tables in a spreadsheet program, which performs projection operations along the dimensions, such as aggregation or averaging.

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) **If an all equity firm has Cash from Operating Activities amounting to ₹60 lakhs, Depreciation ₹30 lakhs, increase in non-cash working capital ₹25 lakhs and Capital expenditure ₹20 lakhs, its Free Cash Flows to Equity amounts to (in ₹lakhs)**
(a) 90
(b) 45
(c) 40
(d) 65

(ii) **Which of the following is not a discounted cash flow technique for valuation of common stock?**
(a) Present value of Dividends
(b) Price-cash flow ratios
(c) Present value of Free Cash Flow
(d) Present value of Operating Cash Flow.

(iii) **Which of the following type of demerger involves the division of parent company into two or more separate companies where parent company ceases to exist after the demerger?**
(a) Split ups
(b) Spinoff
(c) Equity carve out
(d) Divestitures

(iv) **If Cost of debt = 8%, Cost of equity = 13.9%, Tax rate = 40% and Capital structure = Debt: 40% and Equity: 60%, then Weighted average cost of capital is —**
(a) 11.54%
(b) 6.92%
(c) 8.205%
(d) 10.26%.

(v) **If value of A Ltd. is 50, B Ltd. is 20 and on merger their combined value is 90 and A Ltd. receives premium on merger 12, the synergy for merger is (all amounts are in ₹ Lakhs) —**
(a) 8
(b) 20
(c) 32
(d) 38

Answer:

(i) (c) ₹ 40 lakhs [₹ (60 - 20) lakhs = ₹ 40 lakhs] [Depreciation and Working Capital change already adjusted in Cash Flows and no adjustment for cost of debt capital, the firm being all equity]

(ii) (b) Price-cash flow ratios is a Relative valuation technique, not a discounted cash flow technique for valuation of common stock.

(iii) (a) Split ups the division of parent company into two or more separate companies where parent company ceases to exist after the demerger.

(iv) (d) Weighted average cost of capital = 13.9%(0.60) + 8%(1-0.40)(0.40) = 10.26%.

(v) (b) ₹ [90 - (50 + 20)] lakhs = ₹ 20 lakhs. Premium on merger is irrelevant.

6.(a) Alpha India Ltd., is trying to buy Beta India Ltd. Beta India Ltd., is a small bio-technology firm that develops products that are licensed to major pharmaceutical firms. The development costs are expected to generate negative cash flows of ₹ 10 lakhs during

the first year of the forecast period. Licensing fee is expected to generate positive cash flows of ₹ 5 lakhs, ₹ 10 lakhs, ₹ 15 lakhs and ₹ 20 lakhs during 2-5 years respectively. Due to the emergence of competitive products, cash flows are expected to grow annually at a modest 5% after the fifth year. The discount rate for the first five years is estimated to be 15% and then drop to 8% beyond the fifth year. Calculate the value of the firm.

Given: The discount rate @ 15% will be:

Year	1	2	3	4	5
Discount Rate	0.869	0.756	0.6575	0.572	0.497

[10]

(b) The following financial share data pertaining to Techno Ltd. an IT company is made available to you: (Amount in ₹ crores)

Year ended March 31st	2019	2018	2017
EBIT (₹)	696.03	325.65	155.86
Non-branded Income (₹)	53.43	35.23	3.46
Inflation compound factor @ 8%	1.000	1.087	1.181
Remuneration of Capital	5% of average capital employed		
Average capital Employed (₹)	1112.00		
Corporate Tax Rate	35%		
Capitalization Factor	16%		

You are required to calculate the **Brand Value** for Techno Ltd. [10]

Answer:

(a)

Year	Cash flows (₹ In lakhs)	Discount rate @15%	Present Value (₹ in lakhs)
1	(10)	0.869	(8.69)
2	5	0.756	3.78
3	10	0.6575	6.575
4	15	0.572	8.58
5	20	0.497	9.94
	Total sum of present value		20.185

Terminal Value $_t$ = Cash Flow$_{t+1}$ / r-g$_{stable}$

Cash flow $_{t+1}$ = Cash flow (1+g) = 20 (1+0.05) = ₹ 21 Lakhs

Terminal Value = 21/(0.08-0.05) = ₹ 700 Lakhs.

Present value of terminal value = 700 x 0.497 = ₹ 347.9 lakhs

Value of the firm = Total sum of present value + Present value of terminal value = ₹ 20.185 lakhs + ₹ 347.9 lakhs = ₹ 368.085 lakhs.

(b)

Techno Ltd.

Computation of Brand Value

(Amount in ₹ Crores)

Year ended March 31st	2019	2018	2017
EBIT	696.03	325.65	155.86
Less : Non-brand income	53.43	35.23	3.46
Adjusted Profits	642.60	290.42	152.40
Inflation Compound Factor @ 8%	1.000	1.087	1.181
Present Value of Profits for the brand	642.60	315.69	179.98
Weightage Factor	3	2	1
Weightage Profits	1927.80	631.38	179.98
Weight Average Profits $= \dfrac{1927.80 + 631.38 + 179.98}{3+2+1}$			456.53
Remuneration of Capital [5% of Average capital employed] (i.e. 1112×5%)			55.60
Brand Related			400.93
Corporate tax @ 35%			140.33
Brand Earning			260.60
Capitalization Factor			16%

Brand Value: (Return / Capitalization Rate)

₹ 260.60 crores / 0.16 = ₹ 1,628.75 Crores

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

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

Answer the following questions:
(i) What is the market price of each company?
(ii) What is the market Capitalization of each company?
(iii) If the P/E of A Ltd., changes to 7.5 what is the market price of A Ltd.?
(iv) Does market value of A Ltd., change?
(v) What would be the exchange ratio based on Market Price? (Take the revised price of A Ltd.) **[2+2+2+2+2=10]**

(b) Vodafone Ltd. is considering a merger with Idea Ltd. The data below are in the hands of both Boards of Directors. The issue at hand is how many shares of Vodafone Ltd. should be exchanged for Idea Ltd. Both boards are considering three possibilities 20,000, 25,000 and 30,000 shares. You are required to construct a table demonstrating the potential impact of each scheme on each set of shareholders.

	Vodafone Ltd.	Idea Ltd.	Combined Post merger

1	Current earnings per year (₹)	2,00,000	1,00,000	3,50,000
2	Shares outstanding	50,000	10,000	?
3	Earnings per share (₹) (1÷2)	4	10	?
4	Price per share (₹)	40	100	?
5	Price-earnings ratio [4÷3]	10	10	10
6	Value of firm (₹)	20,00,000	10,00,000	35,00,000
7	Expected annual growth rate in earnings in foreseeable future	0	0	0

[10]

Answer:

(a) (i) P/E = Market Price/EPS.

Therefore we have, Market Price = P/E x EPS

A Ltd.'s Market Price = 10 x 1.875 = ₹ 18.75.

B Ltd.'s Market Price = 5 x 1.25 = ₹ 6.25.

(ii) Market Capitalization (same as market value or in short referred to as market cap) = Number of outstanding shares x market price

A Ltd.'s Market cap = 4.0 lakhs x ₹18.75 = ₹75 Lakhs.

B Ltd.'s Market cap = 2.0 Lakhs x ₹6.25 = ₹ 12.5 Lakhs.

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

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

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

(b) The following table demonstrates the potential impact of the three possible schemes, on each set of shareholders:

No. of Vodafone Ltd's shares issued to share holders of Idea Ltd.	Exchange ratio [(1)/ 10,000 shares of Idea Ltd.]	No. of Vodafone Ltd's shares outstanding after merger [50,000+(1)]	Fraction of Vodafone Ltd. (Post merger) owned by Idea Ltd's shareholders [(1)/(3)]	Value of shares owned by Idea Ltd's share holders [(4)× 35,00,000]	Fraction of Vodafone Ltd (Combined post merger) owned by Vodafone Ltd's Share holders [50,000/(3)]	Value of shares owned by Vodafone Ltd's shareholders [(6)×35,00,000]
(1)	(2)	(3)	(4)	(5)	(6)	(7)
20,000	2	70,000	2/7	10,00,000	5/7	25,00,000
25,000	2.5	75,000	1/3	11,66,667	2/3	23,33,333
30,000	3	80,000	3/8	13,12,500	5/8	21,87,500

The total synergy gain is ₹ 5,00,000. In the three options both sets of shareholders are benefitted differently. Thus Idea shareholders benefit maximum if they receive 30,000 shares of Vodafone. They do not benefit at all if they receive only 20,000 shares. The deal is likely to be settled at ₹ 25,000 shares.

8.(a) A company has a capital base of ₹ 3 crore and has earned profits of ₹ 33 Lakhs. Return on investment of the particular industry to which the company belongs is 12.5%. If the services of a particular executive are acquired by the company, it is expected that the profits will increase by ₹ 7.5 lakhs over and above the target profit. Determine the amount of maximum bid price for that particular executive and the maximum salary that could be offered to him.

Particulars	₹
Capital Base	3,00,00,000
Actual profit	33,00,000
Target profit (₹ 3 Crores × 12.5%)	37,50,000

[8]

(b) Q Ltd. wants to acquire R Ltd. and has offered a swap ratio of 1: 2 (0.5 shares for every one share of R Ltd.).

Following information is provided:

Particulars	Q Ltd.	R Ltd.
Profit after tax (₹)	18,00,000	3,60,000
Equity shares outstanding (Nos.)	6,00,000	1,80,000
EPS (₹)	3	2
P/E Ratio	10 times	7 times
Market price per share (₹)	30	14

Required:
(i) The number of equity shares to be issued by Q Ltd., for acquisition of R Ltd.
(ii) What is the EPS of Q Ltd., after the acquisition?
(iii) Determine the equivalent earnings per share of R Ltd.
(iv) What is the expected market price per share of Q Ltd., after the acquisition, assuming its P/E multiple remains unchanged?
(v) Determine the market value of the merged firm.   [2+3+2+2+3=12]

Answer:

(a) Maximum Salary Payable:

Particulars	₹ Lakhs
Capital Base	300.00
Target Profits (= Capital Base x 12.50%)	37.50
Add: Extra Profits due to induction of the Executive	7.50
Total Profits of the Company (anticipated after induction of the Executive)	45.00
Less: Current Profits	33.00
Incremental Profit	12.00

Maximum Salary = Incremental Profit due to introduction = ₹ 12.00 Lakhs per annum.

Maximum Bid Price:

= Value of Salary Payable in perpetuity

= Maximum Salary Payable ÷ Desired Rate of Return on Investment

= ₹ 12 Lakhs ÷ 12.5% = ₹ 96 Lakhs.

(b) (i) The number of shares to be issued by Q Ltd.:

The Exchange ratio is 0.5

So, the new shares = 1,80,000 × 0.5 = 90,000 shares.

(ii) EPS of Q Ltd., after acquisition:

Total Earnings = ₹ (18,00,000 + 3,60,000)	₹ 21,60,000
No. of Shares (6,00,000 + 90,000)	6,90,000
EPS (₹ 21,60,000) / 6,90,000	₹ 3.13

(iii) Equivalent EPS of R Ltd.,

No. of new shares	0.5
EPS (₹)	3.13
Equivalent (3.13 ×0.5) (₹)	1.57

(iv) New Market price of Q Ltd., (P/E remaining unchanged):

Present P/E Ratio of Q Ltd.,	10 times
Expected EPS after merger (₹)	3.13
Expected Market Price (3.13 × 10) (₹)	31.30

(v) Market Value of merged firm:

Total number of Shares	6,90,000
Expected Market Price (₹)	31.30
Total Value (6,90,000 x 31.30) (₹)	2,15,97,000