

## Mergers and Acquisitions – problems

### TOPIC 1: PURCHASE PRICE, STOCK PAYMENT & GOODWILL ADJUSTMENT

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#### Problem 1.1 — Cash Acquisition and Basic Goodwill Recognition

##### Role: Junior Financial Analyst (Buy-Side)

You are working as a junior financial analyst for Alpha Manufacturing Limited, a mid-sized industrial equipment producer. Alpha has decided to acquire 100 percent of Beta Tools Private Limited to expand its production capacity. The acquisition will be executed entirely in cash.

Alpha has agreed to pay a total consideration of ₹480 crore for Beta. As per Beta's most recent balance sheet, the book value of identifiable assets is ₹620 crore, and total liabilities are ₹260 crore. No fair value adjustments are required, as management believes book values reasonably reflect market values.

Your task is to compute the net identifiable assets acquired, determine the amount of goodwill arising from the transaction, and explain how the acquisition would be reflected in Alpha's consolidated balance sheet immediately after the acquisition.

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#### Problem 1.2 — All-Stock Acquisition and Dilution Impact

##### Role: Equity Research Analyst

You are an equity research analyst covering the FMCG sector. Gamma Consumer Products Limited has announced an all-stock acquisition of Delta Foods Limited to strengthen its rural distribution network.

Gamma's current share price is ₹240, and it has 8 crore shares outstanding. Under the acquisition agreement, Gamma will issue 1 new share for every 4 shares of Delta. Delta has 3 crore shares outstanding, trading privately at an estimated fair value of ₹180 per share. Delta's net identifiable assets at fair value are estimated at ₹360 crore.

As part of your analysis, you are required to calculate the implied purchase consideration, the number of new shares issued, the post-acquisition share count of Gamma, and the goodwill arising from the transaction. You must also assess whether the deal is likely to be dilutive or accretive from an ownership perspective.

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**Problem 1.3 — Mixed Consideration with Fair Value Adjustments****Role: M&A Advisory Associate**

You are an associate in the M&A advisory team of an investment bank advising Orion Pharmaceuticals Limited on its acquisition of Nova Healthcare Limited.

The transaction structure involves a cash payment of ₹300 crore and issuance of equity shares worth ₹200 crore, based on Orion's current market price. Nova's balance sheet shows identifiable net assets with a book value of ₹410 crore. During due diligence, Orion identifies an unrecorded brand value of ₹90 crore and undervalued land worth ₹40 crore. Additionally, contingent liabilities of ₹30 crore are identified and must be recognized at fair value.

Your responsibility is to compute the revised fair value of identifiable net assets, determine the total purchase consideration, calculate goodwill, and explain the accounting rationale behind each adjustment.

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**Problem 1.4 — Partial Acquisition and Non-Controlling Interest****Role: Corporate Finance Manager (Acquirer)**

You are the corporate finance manager at Zenith Power Limited, an infrastructure company acquiring a controlling stake in Spark Utilities Limited. Zenith plans to acquire 75 percent of Spark's equity for a total cash consideration of ₹900 crore.

Based on this transaction price, the implied equity value of Spark is ₹1,200 crore. The fair value of Spark's identifiable net assets is estimated at ₹820 crore. Zenith elects to measure the non-controlling interest at the proportionate share of net assets.

You are required to calculate the goodwill attributable to Zenith, the value of the non-controlling interest, and explain how partial ownership affects goodwill recognition compared to a full acquisition.

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**Problem 1.5 — Goodwill Impairment Scenario****Role: Financial Reporting Consultant**

You are advising a listed technology company, PixelSoft Limited, which acquired a start-up, CodeWave Technologies, two years ago. At the time of acquisition, PixelSoft paid ₹600 crore, resulting in goodwill of ₹280 crore.

Due to adverse market conditions and failure to achieve projected revenues, the recoverable amount of the cash-generating unit is now estimated at ₹390 crore. The carrying value of identifiable net assets excluding goodwill is ₹180 crore.

You are required to determine whether goodwill impairment is necessary, quantify the impairment loss if any, and explain the impact on the company's income statement and equity.

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## TOPIC 2: VALUATION OF TARGET COMPANY USING MULTIPLES

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### Problem 2.1 — Single Comparable Valuation

#### Role: Valuation Analyst

You are a valuation analyst tasked with estimating the equity value of UrbanMart Limited, a regional retail chain being considered for acquisition.

A comparable listed company in the same segment trades at an EV/EBITDA multiple of 8.5×. UrbanMart's EBITDA for the most recent year is ₹75 crore. UrbanMart has outstanding debt of ₹140 crore and excess cash of ₹20 crore.

You are required to estimate the enterprise value, equity value, and implied price per share assuming 5 crore shares outstanding.

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### Problem 2.2 — Peer Group Multiple Valuation

#### Role: Investment Banking Analyst

You are assisting in the valuation of a cement manufacturing company, SolidBuild Limited. A peer group of four comparable firms trades at EV/EBITDA multiples of 7.8×, 8.2×, 8.5×, and 9.0×.

SolidBuild's normalized EBITDA is ₹210 crore. The company has net debt of ₹520 crore.

You are required to determine an appropriate valuation multiple, justify your choice, and estimate the equity value of SolidBuild.

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### Problem 2.3 — Conflicting Multiples and Valuation Judgment

#### Role: Deal Advisory Manager

You are advising a strategic buyer evaluating the acquisition of TechNova Limited, an IT services firm. Based on peer analysis, EV/EBITDA multiples suggest an enterprise value of ₹1,800 crore, while P/E multiples imply an equity value of ₹1,400 crore.

TechNova has net debt of ₹250 crore.

You are required to reconcile the valuation difference, explain why EV-based and equity-based valuations diverge, and recommend a reasonable valuation range for negotiation.

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### Problem 2.4 — Normalization of Earnings

**Role: M&A Consultant**

You are valuing an airline company, SkyReach Airways, which reported EBITDA of ₹320 crore in the latest year. However, this includes one-time restructuring costs of ₹70 crore and COVID-related losses of ₹40 crore.

Comparable airlines trade at an average EV/EBITDA multiple of 6.5×

You are required to normalize EBITDA, estimate enterprise value, and explain why normalization is critical in cyclical industries.

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**Problem 2.5 — Strategic Premium Using Multiples****Role: Strategy and Valuation Lead**

You are advising a large private bank acquiring a smaller regional bank. Comparable banks trade at an average P/B multiple of 1.6×. The target bank's book value of equity is ₹2,000 crore.

Due to expected branch rationalization and deposit synergies, the acquirer is willing to pay a 25 percent strategic premium.

You are required to estimate the acquisition price and justify the strategic premium using valuation logic.

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**TOPIC 3: VALUING SYNERGIES**

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**Problem 3.1 — Cost Synergy Valuation****Role: Corporate Development Analyst**

You are estimating synergies from a merger between two manufacturing firms. Management expects annual cost savings of ₹45 crore to be sustained indefinitely. The appropriate discount rate is 10 percent.

You are required to value the cost synergies and explain the assumptions underlying a perpetuity approach.

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**Problem 3.2 — Finite-Life Synergies****Role: M&A Associate**

You are valuing logistics synergies expected to last for five years, generating incremental after-tax cash flows of ₹30 crore per year. The discount rate is 11 percent.

You are required to compute the present value of synergies and compare it conceptually with a perpetuity assumption.

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### **Problem 3.3 — Revenue Synergies with Margins**

#### **Role: Strategic Finance Analyst**

A consumer electronics merger is expected to generate incremental revenues of ₹200 crore in year one, growing at a rate of 5 percent annually for five years. The operating margin on incremental revenue is estimated to be 18 percent. The tax rate is 25 percent, and the discount rate is 12 percent.

You are required to convert revenue synergies into cash flows and estimate their present value.

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### **Problem 3.4 — Tax Synergies**

#### **Role: Valuation Specialist**

The target company has accumulated tax losses of ₹500 crore, which can be utilized over the next four years. The corporate tax rate is 30 percent. The discount rate applicable to tax shields is 9 percent.

You are required to estimate the present value of tax synergies and explain their relevance in acquisition pricing.

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### **Problem 3.5 — Sharing of Synergy Value**

#### **Role: Lead M&A Advisor**

Total synergy value from a cross-border merger is estimated at ₹600 crore. The standalone value of the target is ₹1,800 crore. Competing bidders are likely to capture 60 percent of synergy value.

You are required to estimate the maximum price your client is willing to pay and explain how synergy sharing affects their bid strategy.

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## **TOPIC 4: ADJUSTED PRESENT VALUE (APV) MODEL**

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### **Problem 4.1 — APV Without Leverage**

#### **Role: Valuation Analyst**

You are valuing a services firm with an expected perpetual free cash flow of ₹120 crore. The unlevered cost of capital is 10 percent. The firm has no debt.

You are required to estimate firm value using the APV framework and explain how it compares to a WACC-based valuation.

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#### **Problem 4.2 — APV with Interest Tax Shield**

##### **Role: Corporate Finance Analyst**

A manufacturing company plans to finance an acquisition using ₹400 crore of permanent debt at an interest rate of 8 percent. The corporate tax rate is 30 percent. The unlevered firm value is ₹1,500 crore.

You are required to compute the value of tax shields and estimate the APV.

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#### **Problem 4.3 — Changing Capital Structure**

##### **Role: Infrastructure Valuation Consultant**

An infrastructure project is financed with debt that declines from ₹600 crore to zero over six years. Annual interest expense is based on a constant rate of 9 percent. The tax rate is 25 percent. The discount rate for tax shields is 8 percent.

You are required to value the financing side effects using APV.

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#### **Problem 4.4 — LBO-Style Financing**

##### **Role: Private Equity Analyst**

A private equity firm acquires a company with unlevered value of ₹2,200 crore using ₹1,200 crore of acquisition debt. The tax rate is 30 percent. Debt is expected to be repaid over seven years.

You are required to value the transaction using APV and explain why APV is preferred over WACC in leveraged deals.

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#### **Problem 4.5 — Financial Distress Costs**

##### **Role: Senior Valuation Advisor**

A cyclical commodity firm uses high leverage, generating tax shield benefits of ₹380 crore in present value terms. However, expected present value of financial distress costs is estimated at ₹150 crore.

You are required to compute the net financing benefit and estimate the adjusted present value of the firm.