PRACTICE QUESTIONS WITH SUGGESTED SOLUTIONS/ ANSWERS

PRACTICAL INDUSTRY KNOWLEDGE (PIK) EXAMINATION

[COMPUTER BASED EXAMINATIONS]

[S5] Strategic Financial Management [Strategic Level-2]

Effective from October 2025 Examinations

EXAMINATION DEPARTMENT

Practice Case-1

Executive Summary:

Helix Biosciences Pvt. Limited (HBS), a research-based biotechnology subsidiary of NovaMed Group (NMG), is being acquired by a consortium of venture capitalists (VCs) with plans to rebrand and expand it as GenCure Pvt. Limited (GCP) **(Exhibit-1)**.

This case study explores the strategic terms of acquisition, financial implications, and the formation of GCP as a next-generation biotech entity focused on gene therapies and personalized medicine.

Preamble:

NovaMed Group (NMG) is a major player in the pharmaceutical sector with multiple R&D-driven subsidiaries. As part of a strategic realignment, NMG's senior leadership has decided to divest Helix Biosciences (HBS), positioning it for acquisition by venture capitalists aiming to enter the high-growth biotechnology and gene therapy market.

a) Terms of Acquisition:

After negotiations between the higher management of NMG and the Venture Capitalists (VCs), the following terms and conditions were agreed:

- **Valuation and Transaction Details:**
  - **Total Worth of HBS:** Rs. 3,150 million, based on the latest audited financial statements.
  - **Debt Settlement:** NMG will clear all existing debts of HBS before the acquisition.
  - **Equity Stake:** NMG will retain a 10% stake in GenCure Pvt. Limited (GCP), the newly formed entity.

Financial Snapshot of HBS (Based on Last Audited Financial Statements):

The following information has been extracted from the last audited financial statements of HBS:

		Rs. Million
Sales		4,437
Cost of Sales		(2,892)
Gross Profit		1,545
Allocated expenditures to NMG	(383)	
Operating Expenses	(582)	
Other income	324	
Financial Charges	(179)	
		(820)
Profit Before Tax		725
Tax at 29%		(211)
Net Profit		**514**

Requirement:

1. Evaluate the feasibility of the debt financing terms proposed for GenCure Pvt. Limited (GCP). **[15 Marks]**

2. Analyze whether GCP will be able to meet its debt obligations while complying with loan restrictions. **[15 Marks]**

b) Management and Industry Context of GCP:

The leadership of GCP will include key scientists and professionals from HBS who have deep experience in genetic research, molecular biology, and drug development. The goal is to bring innovative, commercially viable gene therapies to market. The VCs were drawn by the team's expertise and have agreed to complement the technical team with experienced business strategists.

GCP is capital-intensive and requires specialized talent and complex clinical trials. To overcome technical and regulatory bottlenecks, GCP plans to outsource some early-phase research and focus internally on late-stage development and commercialization. Although competition is intense, GCP believes it holds an advantage due to proprietary research, patents, and collaborations with academic institutions.

A major challenge for GCP is infrastructure and regulatory clearance, especially for clinical trials. The government has expressed interest in supporting high-impact biotech ventures to boost healthcare innovation. Still, capital markets are under stress, and regulatory compliance is becoming increasingly strict, especially regarding human trials and gene-editing technology.

Public and regulatory pressure for safe, affordable healthcare is growing. As a result, the management is committed to closely monitoring policy changes, identifying competitive threats, and creating robust performance measurement frameworks. The VCs have also emphasized the importance of competitor benchmarking and aligning financial and operational strategies for long-term profitability.

Requirement:

1. Critically evaluate how the differing objectives of key stakeholders, venture capitalists, scientific leadership, and government regulators, could influence GenCure Pvt. Limited's (GCP) strategic priorities and operational decisions. **[15 Marks]**
2. Assess the impact of these stakeholder influences on GCP's long-term financial performance. **[15 Marks]**

Exhibit-1: Investment Criteria for GCP:

The VCs' investment structure is as follows:

- **Equity Contribution:** VCs will invest Rs. 405 million in GCP as equity.
- **Convertible Loan by the Financial Institution (FI) with the terms including:**
    - **Interest Rate:** 11% per annum.

  - **Repayment:** Principal repayable in four equal annual instalments starting from the end of year 2.
  - **Conversion Option:** FI can convert the remaining loan amount into GCP shares at Rs. 37.5 per share.
  - **Conversion Timing:** Option exercisable at the beginning of year 5.
- **Dividend Restriction:** GCP would not be allowed to issue any dividend during the tenure of the loan.

Additional Financial Assumptions:
The following cost and benefit analysis has been made regarding GCP:

- Gross profit is expected to grow by 3% annually.
- Operating expenses will increase by Rs. 150 million in Year 1, and thereafter by 3% annually.
- 75% of annual net profit will be available in cash for debt repayments.

Suggested Solution/ Answer

						Rs. Million
Financial Institution (FI)	**Years**	**1**	**2**	**3**	**4**	**5**
Operating profit excluding other income		859.35	885.13	911.68	939.03	967.21
Other income		324.00	324.00	324.00	324.00	324.00
Less: Interest on Loan						
Year 1 (2700 x 11%)		(297.00)				
Year 2 (2700 x 11%)			(297.00)			
Year 3 (2025 x 11%)				(222.75)		
Year 4 (1350 x 11%)					(148.50)	
Year 5 (675 x 11%)						(74.25)
Profit Before Tax		886.35	912.13	1,012.93	1,114.53	1,216.96
Tax (29%)		(257.04)	(264.52)	(293.75)	(323.22)	(352.92)
Profit After Tax		629.31	647.61	719.18	791.32	864.04
Share Capital		450.00	450.00	450.00	450.00	450.00
Reserve		629.31	1,276.92	1,996.10	2,787.42	3,651.46
Total Equity		1,079.31	1,726.92	2,446.10	3,237.42	4,101.46
Opening Balance (cash)		-	471.98	282.69	147.08	65.57
Available cash for debt payment		471.98	485.71	539.39	593.49	648.03
Payment of principal		-	(675.00)	(675.00)	(675.00)	(675.00)
Closing Balance		471.98	282.69	147.08	65.57	38.60

Operating income	1591.35
Operating expenses	732
	859.35

Debt Financing:	
Agreed Price	3150
Less: Equity Financing	
VCs	-405
HBS (405x 10/90)	-45
	2700

W-3: Break up value	**Years**	**1**	**2**	**3**	**4**	**5**
Total Value of Equity/ Number of shares		23.98	38.38	54.36	71.94	91.14

Based on the above information, we may conclude as follows:

(i) The GCP would be able to meet the debt covenants and payment requirement.

(ii) The break-up value of shares at the commencement of year 4 would be Rs. 71.94 (W-3) and at the commencement of year 5 it would be 91.14 (W-3). Therefore, it is likely that bank will decide to opt for conversion of loan into shares at Rs. 37.5 per share, it would reduce the break-up value for the current owners. Moreover, the bank will also be in a position to obtain control over the company.

Part B – 1: Critical Evaluation of Stakeholder Objectives and Their Influence on GCP's Strategic and Operational Decisions

GenCure Pvt. Limited (GCP) sits at the intersection of multiple high-stakes stakeholders whose differing objectives can significantly influence its strategic priorities and operations.

1. Venture Capitalists (VCs):

- **Objective:** Maximize returns within a defined investment horizon (typically 5–7 years).
- **Influence:**
  - **Focus on Commercialization and Profitability:** VCs will push for rapid development and market launch of commercially viable gene therapies.
  - **Operational Efficiency:** Pressure to minimize costs, optimize resource allocation, and deliver short-term milestones.
  - **Exit Strategy Planning:** The structure (convertible loan, equity participation, and dividend restriction) reflects a focus on future valuation for IPO or strategic sale, which may encourage prioritizing scalability and revenue growth over long-term research.

2. Scientific Leadership (Former HBS Team):

- **Objective:** Advance research in gene therapy and maintain scientific integrity.
- **Influence:**
  - **R&D-Centric Strategy:** Emphasis on quality, innovation, and long-term scientific credibility.

- **Risk Appetite for Experimental Therapies:** May prefer longer timelines for complex trials that align with academic rigor rather than immediate commercial outcomes.
- **Internal vs. Outsourced Research:** Likely to resist excessive outsourcing if it dilutes scientific control or quality.

3. Government and Regulators:

- **Objective:** Ensure public health, safety, affordability, and ethical compliance.
- **Influence:**
  - **Regulatory Bottlenecks:** Can delay clinical trial approvals and commercialization.
  - **Policy Shifts:** Sudden changes in gene-editing regulations, trial conduct, or IP rights could shift strategic focus or increase compliance costs.
  - **Public Health Prioritization:** May impose pricing controls or require affordable access to therapies, reducing profitability.

Conflicting Priorities and Their Impact:

Stakeholder	Conflict Area	Strategic Implication
VCs vs. Scientists	Speed vs. Rigor	VCs want fast time-to-market; scientists prioritize long-term, high-quality research.
VCs vs. Regulators	Commercialization vs. Compliance	VCs may favor aggressive expansion; regulators enforce cautious approval processes.
Scientists vs. Government	Innovation vs. Ethical Oversight	Scientists may push boundaries of gene editing; government demands stricter controls.

Conclusion:

GCP must strike a delicate balance, aligning the urgency of investors, the integrity of its scientific roots, and the compliance expectations of regulators. A well-structured governance framework, cross-functional leadership, and phased strategy execution will be critical to navigating these diverging influences.

Part B – 2: Assessment of Stakeholder Influence on GCP's Long-Term Financial Performance

GCP's long-term financial sustainability will be shaped by how well it manages competing stakeholder interests. The influence of each stakeholder carries both risks and opportunities:

1. Venture Capitalists (VCs):

- **Positive Impact:**
  - **Initial Capital Influx:** Rs. 405 million in equity helps establish operations and fund trials.
  - **Performance Discipline:** Financial KPIs and cost control will enhance operational efficiency.
- **Risks:**
  - **Short-Term Focus:** Pressure for early returns could compromise long-term R&D, reducing future innovation pipeline.
  - **Dividend Restriction:** Limits reinvestment flexibility during the loan period.

2. Scientific Leadership:

- **Positive Impact:**
  - **Intellectual Capital:** Access to proven researchers and proprietary technology can drive future breakthroughs.
  - **Academic Collaborations:** Partnerships with institutions may reduce early-stage R&D costs and share risks.
- **Risks:**
  - **Resource Intensive Projects:** High R&D expenditure without guaranteed outcomes could strain finances.
  - **Delayed Monetization:** Focus on complex therapies may extend breakeven timelines.

3. Government and Regulatory Authorities:

- **Positive Impact:**
  - **Policy Support:** If aligned with national healthcare goals, GCP may benefit from grants, fast-track approvals, or tax incentives.
  - **Reputation Boost:** Compliance with ethical standards builds long-term brand credibility and investor confidence.
- **Risks:**
  - **Regulatory Delays:** Extended trial approvals or changes in gene therapy laws can cause project deferrals, affecting cash flow.
  - **Price Controls:** Public pressure may result in mandatory affordable pricing, limiting profit margins.

Combined Impact on Financial Performance:

Factor	Short-Term Impact	Long-Term Impact
VCs' Investment & Discipline	Improves liquidity, imposes control	Could hinder reinvestment post-loan period
Scientific Innovation	High initial costs	Potential for blockbuster therapies and IP revenue
Regulatory Environment	Delays cash inflows	Ensures sustainability and access to future markets

Conclusion:

GCP's long-term financial performance will depend on its ability to:

- Manage R&D burn rate, especially during non-revenue-generating years.
- Meet compliance obligations without hampering innovation.
- Balance strategic agility (for investor confidence) with scientific depth (for breakthrough therapies).

A diversified revenue model (e.g., licensing patents, co-development deals) and proactive regulatory engagement will be crucial to mitigating stakeholder-induced financial pressures.

Practice Case-2

Introduction:

Renewable energy projects are a crucial and growing component of Pakistan's energy supply chain, significantly contributing to the country's gross domestic product (GDP). On one side, renewable energy parks provide clean energy to meet local demand and help reduce dependence on fossil fuels; on the other, they create opportunities for investment and export of green technology solutions.

In this context, a public sector company "GreenTech Solutions Limited" (GTSL) has recently been incorporated to develop a state-of-the-art Model Renewable Energy Complex capable of generating and distributing thousands of megawatts (MW) of clean energy annually.

Financial Data for the Model Renewable Energy Complex Project:

- GTSL has already incurred Rs. 3.3 million over the past two years (2024 and 2025) on surveys and other preparatory expenditures related to the project.
- The total project cost is estimated at Rs. 5,500 million, with the following breakdown:

	Rs. in million
Land	800
Building and civil works including infrastructure	1,800
Plant and machinery	2,200
Furniture and fixture	300
Net initial working capital	400
Total project cost	**5,500**

- Total construction period will be two years and year-wise estimate of total project cost to be incurred is as under:
  - **Year-2026:** 70% of total project cost
  - **Year-2027:** Remaining 30% of total project cost
- Total project cost is being financed by issuing fully paid-up shares of Rs. 100 each. Weighted average cost of capital (WACC) of project will be15%.

Revenue and Expense Projections (Provided by CFO):

Revenues

	Year-2028 (Rs. in million)	**Year 2029 – 2033 (Yearly Increase By)**
Self-managed services	380	4%
Outsourcing services	900	4%
Other income	340	5%
Total	**1,620**	

Expenses

	Year-2028 (Rs. in million)	Year 2029– 2033 (Annual Escalation)
Cost of services (excluding depreciation)	386	5%
Administrative and selling expenses (excluding depreciation)	264	5%
Other expenses	120	4%
Total	**770**	

- Net cash flows are expected to grow at 6% after 2033 for an indefinite period.
- The company will follow straight-line method of depreciation. Annual rate of depreciation and its allocation to cost of services and administrative and selling expenses is as follows:

	Annual Rate	Allocation	
		Cost of Services	Administrative and Selling Expenses
Building and civil works including infrastructure	10%	70%	30%
Plant and machinery	10%	100%	–
Furniture and fixture	15%	40%	60%

- Additional working capital of Rs. 52 million and Rs. 55 million will be required in Year-2031 and Year-2032 respectively, which will be recovered in Year-2033.
- Income tax will be 29%, and it is assumed that income tax rate will remain at this level in future.

Required:

(a) Using the projected financial data, determine the year-wise future net cash flows for the years 2026 to 2033. **15**

(b) Evaluate the financial health and performance of the project by calculating the following key financial ratios from 2028 to 2033: **15**

(i) Return on Assets (ROA)

(ii) Return on Equity (ROE)

(iii) Operating Margin

(c) Assess the financial viability of establishing the Model Renewable Energy Complex. **15**

(d) Evaluate the strategic alignment of the project with GreenTech Solutions Limited's overall mission, goals, and long-term objectives. **15**

Suggested Solution/ Answer

(a) Year-Wise Future Net Cash Flows period from 2026 to 2027:

Green Tech Solution
Year-Wise Future Net Cash Flows period from 2026 to 2033

Rs. in million

Years	2026	2027	2028	2029	2030	2031	2032	2033
Income:								
Self-managed services			380	395.2	411.01	427.45	444.55	462.33
Outsourcing services			900	936	973.44	1,012.38	1,052.87	1,094.99
Other income			340	357	374.85	393.59	413.27	433.94
Total Income			1,620.00	1,688.20	1,759.30	1,833.42	1,910.69	1,991.25
Cost of services (including depreciation) (N-1)			750	769.3	789.57	810.84	833.19	856.64
Gross profit/ (loss)			870	918.9	969.73	1,022.58	1,077.51	1,134.61
Administrative and selling expenses (including depreciation) (N-2)			345	358.2	372.06	386.61	401.89	417.94
Others expenses			120	124.8	129.79	134.98	140.38	146
Profit before tax			405	435.9	467.88	500.98	535.23	570.67
Income tax @ 29%			117.45	126.411	135.685	145.284	155.217	165.4943
Profit after tax			287.55	309.489	332.195	355.696	380.013	405.1757
Add back Depreciation	-	-	445	445	445	445	445	445
Additional working capital required and recovered	-	-	-	-	-	-52	-55	107
Cash flows	-3,850.00	-1,650.00	732.55	754.489	777.195	748.696	770.013	957.1757
Terminal cash flow (N-4)								11,273.40
Future net cash flows	-3,850.00	-1,650.00	732.55	754.489	777.195	748.696	770.013	12230.5757

Notes:

Rs. in million

Years	2028	2029	2030	2031	2032	2033
N-1: Cost of Services:						
Cost of services (excluding depreciation)	386.00	405.30	425.57	446.84	469.19	492.64
Add: depreciation (N-3)	364.00	364.00	364.00	364.00	364.00	364.00
Total Cost of Services	750.00	769.30	789.57	810.84	833.19	856.64
N-2: Administrative and Selling Expenses:						
Administrative and selling expenses (excluding depreciation)	264.00	277.20	291.06	305.61	320.89	336.94
Add: depreciation (N-3)	81.00	81.00	81.00	81.00	81.00	81.00
Total Administrative and selling expenses	345.00	358.20	372.06	386.61	401.89	417.94

N-3: Depreciation Schedule:

	Rs. in million	Annual Rate of Depreciation	Annual Depreciation (Rs. in million)	Allocation			
				Cost of Service		Administrative and Selling Expenses	
				%	Rs. in million	%	Rs. in million
Building and civil works including infrastructure	1,800	10%	180.00	70	126.00	30	54.00
Plant and machinery	2,200	10%	220.00	100	220.00	–	–
Furniture and fixture	300	15%	45.00	40	18.00	60	27.00
Total	**4,300**		**445.00**		**364.00**		**81.00**

Ignore survey and other expenses amounting to Rs. 3.3 million because of irrelevant and sunk cost.

N-4: Calculation of Terminal Cash Flow:

$$\text{Terminal cash flow} = \frac{\text{2033 earnings } (1+g)}{(r-g)}$$

$$= \frac{957.1757\ (1+0.06)}{(0.15-0.06)}$$

$$= 11{,}273.40$$

Part (b): Calculate Key Financial Ratios (2028 to 2033)

Calculate Operating Profit for each year (2028–2033)

Revenues for 2028 and growth rates:

Year	Self-managed (Rs. mn)	Outsourcing (Rs. mn)	Other income (Rs. mn)	Total Revenue (Rs. mn)
2028	380	900	340	1,620
2029	380 * 1.04 = 395.2	900 * 1.04 = 936	340 * 1.05 = 357	1,688.2
2030	395.2 * 1.04 = 411.0	936 * 1.04 = 973.4	357 * 1.05 = 374.85	1,759.25
2031	411 * 1.04 = 427.44	973.4 * 1.04 = 1,012.3	374.85 * 1.05 = 393.59	1,833.32
2032	427.44 * 1.04 = 444.54	1,012.3 * 1.04 = 1,052.8	393.59 * 1.05 = 413.27	1,910.61
2033	444.54 * 1.04 = 462.32	1,052.8 * 1.04 = 1,094.9	413.27 * 1.05 = 433.94	1,991.16

Expenses for 2028 and growth rates (excluding depreciation):

Year	Cost of services	Admin & selling expenses	Other expenses	Total Operating Expenses (excl. dep)
2028	386	264	120	770
2029	386 * 1.05 = 405.3	264 * 1.05 = 277.2	120 * 1.04 = 124.8	807.3
2030	405.3 * 1.05 = 425.56	277.2 * 1.05 = 291.06	124.8 * 1.04 = 129.79	846.41
2031	425.56 * 1.05 = 446.84	291.06 * 1.05 = 305.62	129.79 * 1.04 = 134.98	887.44
2032	446.84 * 1.05 = 469.18	305.62 * 1.05 = 320.9	134.98 * 1.04 = 140.38	930.46
2033	469.18 * 1.05 = 492.64	320.9 * 1.05 = 336.95	140.38 * 1.04 = 146	975.59

Add Depreciation Rs. 445 million each year:

Year	Total Operating Expenses (incl. depreciation)
2028	770 + 445 = 1,215
2029	807.3 + 445 = 1,252.3
2030	846.41 + 445 = 1,291.41
2031	887.44 + 445 = 1,332.44
2032	930.46 + 445 = 1,375.46
2033	975.59 + 445 = 1,420.59

Operating profit = Revenue – Operating expenses:

Year	Operating Profit (Rs. Million)
2028	1,620 – 1,215 = 405
2029	1,688.2 – 1,252.3 = 435.9
2030	1,759.25 – 1,291.41 = 467.84
2031	1,833.32 – 1,332.44 = 500.88
2032	1,910.61 – 1,375.46 = 535.15
2033	1,991.16 – 1,420.59 = 570.57

Step 2: Estimate Total Assets and Shareholders' Equity for ROA and ROE

Total Assets = Project Cost (Fixed assets + working capital remaining)

Net Fixed Assets (NFA):
Initial fixed assets = Rs. 4,300 mn
Depreciation each year = Rs. 445 mn

$NFA_t = 4{,}300 - (t - 2028) \times 445$

Year	Depreciation Accumulated	Net Fixed Assets (Rs. million)
2028	0	4,300
2029	445	3,855
2030	890	3,410
2031	1,335	2,965
2032	1,780	2,520
2033	2,225	2,075

Working capital:

- Rs. 400 million at start,
- Additional Rs. 52 million in 2031,
- Additional Rs. 55 million in 2032,
- Both recovered in 2033.

Year	Net Fixed Assets (Rs. mn)	Working Capital (Rs. mn)	Total Assets (Rs. mn)
2028	4,300 – 0 * 445 = 4,300	400	4,700
2029	4,300 – 1 * 445 = 3,855	400	4,255
2030	4,300 – 2 * 445 = 3,410	400	3,810
2031	4,300 – 3 * 445 = 2,965	400 + 52 = 452	3,417
2032	4,300 – 4 * 445 = 2,520	452 + 55 = 507	3,027
2033	4,300 – 5 * 445 = 2,075	400 (recovered, base)	2,475

Shareholders' Equity

- Initially Rs. 5,500 million (fully equity financed).
- Retained earnings add to equity each year.
- Ignore dividends (not specified).

Calculate cumulative retained earnings by adding PAT year by year from 2028 onwards:

Year	PAT (Rs. mn)	Cumulative PAT (Rs. mn)	Equity (Rs. mn) = 5,500 + Cum. PAT
2028	287.55	287.55	5,787.55
2029	309.49	597.04	6,097.04
2030	332.20	929.24	6,429.24
2031	355.70	1,284.94	6,784.94
2032	380.01	1,664.95	7,164.95
2033	405.18	2,070.13	7,570.13

Step 3: Calculate ROA and ROE for each year

Using average assets and equity = (current year + previous year)/2

Year	PAT (Rs. mn)	Avg Assets (Rs. mn)	ROA (%)	Avg Equity (Rs. mn)	ROE (%)
2028	287.55	5,100	(287.55 / 5,100 \100 = 5.64%)	5,500	(287.55 / 5,500 \t 100 = 5.23%)
2029	309.49	4,477.5	6.91	5,643.78	5.48
2030	332.20	4,032.5	8.24	5,942.3	5.59
2031	355.70	3,613.5	9.84	6,263.14	5.68
2032	380.01	3,222	11.79	6,607.09	5.75
2033	405.18	2,751	14.73	6,974.95	5.81

Step 4: Calculate Operating Margin

Year	Operating Profit (Rs. million)	Revenue (Rs. million)	Operating Margin %
2028	405	1,620	25.0
2029	435.9	1,688.2	25.8
2030	467.84	1,759.25	26.6
2031	500.88	1,833.32	27.3
2032	535.15	1,910.61	28.0
2033	570.57	1,991.16	28.7

Summary Table

Year	ROA (%)	ROE (%)	Operating Margin (%)
2028	5.64	5.23	25.0
2029	6.91	5.48	25.8
2030	8.24	5.59	26.6
2031	9.84	5.68	27.3
2032	11.79	5.75	28.0
2033	14.73	5.81	28.7

Part (c): Recommendation

Financial Viability:

- Positive net cash flows starting from 2028, following the construction phase in 2026-27.
- Increasing profit and cash flows with steady growth in revenues and controlled expenses.
- ROA is improving substantially over time (6.15% to 17.06%), reflecting efficient asset utilization as depreciation reduces asset base.
- ROE remains relatively stable (~5%), which is moderate given full equity financing; could improve if project introduces some debt.
- Operating margins are healthy and improving, starting at 25% and reaching nearly 29%, indicating good operational efficiency.
- The terminal value at Rs. 11,071.77 million significantly boosts the project's valuation.

Part (d): Strategic Alignment:

- The project supports Pakistan's renewable energy goals, reducing fossil fuel dependence.
- Enhances energy security with clean and large-scale energy production.
- Potential for attracting green investment and technology exports aligns with government priorities.
- The public sector company model supports sustainable infrastructure development.

Risks & Considerations:

- WACC of 15% is relatively high; project viability depends on maintaining cost controls and revenue growth.
- Working capital injections in 2031-32 require careful cash management.
- Technology, policy, or market risks could affect revenue projections.

Final Recommendation:

Based on the detailed financial analysis:

- GreenTech Solutions Limited should proceed with the Model Renewable Energy Complex project.

The project is financially viable with positive cash flows, solid returns, and a strong strategic fit with national priorities. Careful monitoring of cash flows, especially working capital needs, and efforts to optimize financing structure could further enhance returns.

Practice Case-3

Company Overview

Velocity Limited was founded five years ago by two entrepreneurial friends who identified an opportunity in the automotive supply chain. The company specializes in designing and manufacturing tools and parts for motor vehicles, catering primarily to domestic manufacturers.

Over the past five years, Velocity Limited has achieved steady growth in sales and profits, funded through internal cash flows and moderate debt. Management highlights the consistent increase in profit before interest and tax (PBIT), which rose from Rs. 4,875,000 in the first year to Rs. 6,500,000 in the recent financial year.

Financial Position and Capital Structure

Velocity Limited has funded its growth through a mix of equity and debt. The company has Rs.25,000,000 in equity capital, comprised of Rs.10,000,000 in share capital (with Rs.10 par value per share) and Rs.15,000,000 in reserves.

On the debt side, Velocity Limited has Rs.30,000,000 of long-term loans carrying a fixed interest rate of 12%. Interest expenses for the year amounted to Rs.3,000,000. This level of gearing has enabled the company to pursue growth while maintaining financial flexibility.

The company's total assets stand at Rs.60,000,000, including Rs.45,000,000 in net non-current assets and Rs.15,000,000 in current assets.

Operational and Market Environment

The automotive sector has recently seen an uptick in demand due to favourable economic conditions. However, this surge has increased competition among suppliers, leading to upward pressure on the cost of tools and parts. Consequently, Velocity Limited anticipates slower growth in cash flows and profits going forward, estimating future growth at only 20% of its historic rate.

The company also faces limitations on capital expenditure and product development because of these increased costs and competitive pressures.

Industry Peer: Franco Limited

Franco Limited is a well-established competitor operating in the same sector. It has a market capitalization supported by 5 million shares outstanding at Rs.26 per share and a profit after tax of Rs.8.7 million.

Franco Limited maintains a relatively conservative capital structure with a debt-to-equity ratio of 0.4. Its equity beta is estimated at 1.2, reflecting the systematic risk of its operations relative to the market.

Both Velocity Limited and Franco Limited are subject to a corporate tax rate of 29%.

Takeover Proposal

Franco Limited has made an offer to acquire Velocity Limited to consolidate its position in the market and realize potential cost synergies estimated at Rs.450,000 annually after tax.

The takeover offer comprises two alternatives:

1. **Cash Offer:** Rs.15 cash per share of Velocity Limited.
2. **Share Exchange Offer:** For every 4 shares held in Velocity Limited, shareholders can receive 3 shares of Franco Limited.

Franco Limited has sufficient cash resources to meet the cash offer and believes that, post-acquisition, Velocity Limited's earnings can justify a price-earnings (P/E) ratio of 15, similar to Franco's.

Requirement:

1. **Risk Assessment Using Beta** **[15 Marks]**

    - Calculate Velocity Limited's unlevered beta to isolate business risk from financial risk.
    - Using the company's debt-to-equity ratio and tax rate, estimate the levered beta.
    - Compare these betas with Franco Limited's beta and interpret the differences in risk profiles due to capital structure and operational risk.

2. **Valuation of Velocity Limited** **[15 Marks]**

    Calculate the equity value per share of Velocity Limited using a free cash flow to firm (FCFF) approach, considering the current profit and expected growth rates.

3. **Shareholder Gains** **[15 Marks]**

    Estimate the percentage gain to Velocity Limited shareholders under both takeover offers: the Rs.15 cash offer and the share-for-share exchange.

4. **Offer Acceptability** **[15 Marks]**

    Assess which offer is preferable for shareholders of both Velocity Limited and Franco Limited, taking into account the value creation or dilution for each party.

Suggested Solution/ Answer

Part (1)
βu=1.2/ 1+(1-0.29)x 0.4

Unlevered Beta (Industry/Business Risk):

βu=0.935

- βu=0.935
- D/E for Velocity = 30/25=1.2
- Tax=29%

βe=βu x [1+(1−T)xD/E]

βe=0.935·[1+0.71·1.2]=0.935·[1+0.852]=0.935·1.852≈1.731

Levered Beta (Velocity's Equity Beta):
βe=1.73

(2) Current value per share of equity of Velocity Limited using FCF method:

Rs. '000'

Total value	=	Free cash flows × (1 + growth rate) ÷ (K – g)
	=	5,115 (W-2) × (1 + 0.015) ÷ (0.1288– 0.015(W-2))
	=	Rs.45,621,485.06
Equity Value	=	Rs.45,621,485.06– 30,000,000
	=	Rs.15.62 million
No. of shares	=	1,000,000 shares
Equity value per share	=	Rs. Rs.15.62 million÷ 1,000,000
	=	Rs. 15.62 per share

W-1

Cost of Equity= Ke= Rf + Be (Rm-Rf)
Ke= 6% + 1.73 (13%-6%)
Ke = 18.11%

WACC= (25/55) x18.11% + (30/55) x 12% (1-0.29) =
8.23% + 4.65% = 12.88%

W-2	Rs. '000'
Free cash flows:	
Profit before interest and tax (PBIT)	6,500
Non-cash items	5,500
Cash investment	(5,000)
TAX	(1,885)
Free cash flow (FCF)	5,115

W-3: Growth rate calculation:-

Past growth rate	=	(latest PBIT ÷ Earliest PBIT)$^{1/\text{no of periods of growth}}$ -1
	=	$(6,500 \div 4,875)^{1/4}$ -1
	=	0.0745
Future g	=	0.0745 × 0.20
	=	0.015

(3) (i) Cash Offer:

Percentage gain/loss in value to Velocity Limited $= \dfrac{\text{Share price offered - equity value per share}}{\text{equity value per share}}$

= Rs. 15- Rs. 15.62/ 15.62

= (3.97%)

Percentage gain/loss in value to Franco Limited:

Profit after Tax= (6,500,000 – 3,600,000) x 0.71= Rs. 2,059,000

Additional post-acquisition earnings = Rs. 2,059,000+ Rs. 450,000 = Rs. 2,509,000

Additional earnings per share = Rs. 2,509,000÷ 5,000,000

= Re. 0.5018 per share

Increase in share price = 15 × Re. 0.5018 = Rs.7.53

Additional value created = Rs. 7.53 × 5,000,000 = Rs. 37,650,000

Cost of acquisition = Rs. 15 × 1,000,000 = Rs. 15,000,000

Value added for Frantic Co. = Rs. 37,650,000– Rs. 15,000,000

= Rs. 22,650,000

Gain in value per share = Rs. 22,650,000÷ 5,000,000

= Rs. 4.53 per share

= Rs. 4.53 ÷ Rs. 26 = 17.42%

(ii) Share-for-Share Offer:

Earnings of the combined company = Rs. 8,670,000 + Rs. 2,509,000

= Rs. 11,179,000

Total no. of shares = 5 million + (1 million × ¾) = 5,750,000

EPS of combined company = Rs. 11,179,000÷ 5,750,000 = 1.94per share

Expected share price using P/E = Rs. 1.94 × 15 = Rs. 29.1

Gain in value to Franco Limited shareholder = (Rs. 29.1 – Rs. 26) ÷ Rs. 26

= 11.92%

Current value of 4 shares in Velocity Limited = Rs. 15.62× 4 = Rs. 62.48

Gain in value to a shareholder of Velocity Limited = (29.1 x 3) – 62.48/ 62.48

= 39.72%

(4) Velocity Limited shareholders would prefer the share-for-share exchange offer, as it provides a gain of approximately 39.7%, compared to a loss of 3.97% under the cash offer (based on the intrinsic share value of Rs.15.62). Franco Limited shareholders also benefit under both options, with a gain of 17.4% under the cash offer and 11.9% under the share exchange. While the cash offer yields a slightly higher gain for Franco, the share-for-share exchange offer creates value for both parties, making it the more mutually acceptable and strategically aligned option.

Practice Case-4

Background:

TechnoSoft Limited (TSL) was established 40 years ago and was listed on the Pakistan Stock Exchange (PSX) in 2017. The company grew rapidly and now operates across major cities in Pakistan. TSL is engaged in the import, development, installation, and servicing of IT infrastructure and networking equipment**,** catering primarily to the domestic SME sector. Its core offerings include network switches, servers, structured cabling systems, data centre cooling units, and IT maintenance contracts.

The company is known for its reliable after-sales service and is one of the few in the industry that offers a three-year warranty on all hardware and installation work. However, since 2019, growth in revenue and profitability has slowed down, primarily due to market saturation and increasing competition.

To address these concerns and stimulate future growth, the CEO, Mr. Hameed Khan, has presented two strategic options for expansion:

Strategy 1 – Launching a Budget IT Solutions Company

TSL is considering launching a new company under a separate brand to provide low-cost IT infrastructure solutions targeted at micro-enterprises and home-office setups. This market segment has grown due to the rise in remote work and digital entrepreneurship.

The new company will offer similar core products to those currently sold by TSL but with different branding and simpler configurations. Prices will be set lower than TSL's current offerings to attract price-sensitive customers.

The investment required to establish this company, including branding, minimal infrastructure upgrades, and operational adjustments, is estimated at Rs. 600 million. The company is expected to become operational by 1 January 2025.

It is anticipated that the company will generate revenues of Rs. 600 million in 2025. These revenues are expected to double in each of the following two years, stabilizing indefinitely from 2027 onwards. Sales from this company are projected to yield an overall after-tax margin of 15%.

There will be minimal incremental fixed costs since the operations closely resemble TSL's existing business. However, it is expected that existing TSL revenues will decline by approximately Rs. 200 million per year due to customer shift towards the new company's offerings.

Strategy 2 – Acquisition of NetSys Technologies Limited (NTL)

TSL is considering acquiring NetSys Technologies Limited (NTL), a company specializing in enterprise-level IT and cybersecurity infrastructure for large commercial clients. NTL's products are technically more sophisticated than TSL's offerings and command higher profit margins, reflecting their focus on large corporations with mission-critical needs.

NTL is currently owned by VisionCorp Holdings, a large industrial conglomerate that has decided to divest NTL to concentrate on its core operations. Initial negotiations between TSL and VisionCorp are underway, and if finalized soon, the acquisition is expected to be completed by 1 January 2025.

Presently, NTL's products are manufactured by VisionCorp, and this arrangement will continue post-acquisition, with VisionCorp remaining the supplier.

Under TSL's management, NTL's sales volumes are projected to grow at a rate of 14% per annum indefinitely. To support this growth, NTL would need to invest Rs. 720 million annually in non-current

assets and allocate an additional Rs. 60 million per annum to marketing efforts. Inflation is to be ignored in these estimates.

The cost of sales for both TSL and NTL consists entirely of variable costs, while other operating costs are entirely fixed.

Interest on corporate bonds for companies in the risk class of NTL is 18% per annum. NTL's annual weighted average cost of capital is 20%.

Exhibit – Financial Information

Summary of Statement of Profit & Loss for the year ended December 31, 2024		
	TSL	**NTL**
	Rs. Million	
Revenue	4,800	2,400
Cost of Sales (N-1)	(3,600)	(1,200)
Gross Profit/ Loss	1,200	1,200
Operating Expenses	(300)	(400)
(Loss)/profit from operations (N-2)	900	800
Finance costs	(300)	(72)
(Loss)/profit before tax	600	728
Income tax expense (29%)	(174)	(211)
(Loss)/profit after tax	426	517

Summary of Statement of Financial Position as on December 31 2024		
	TSL	**NTL**
	Rs. Million	
Assets:		
Non-current Assets:		
Property, plant, and equipment (N-3)	17,290	5,100
Total Non- current Assets	17,290	5,100
Current assets:		
Inventories (N-4)	1,300	1,530
Receivables	210	1,030
Cash	1,300	640
	2,810	3,200
Total assets	20,100	8,300
Equity and liabilities		
Issued capital- at Rs. 10	12,000	2,000
Revaluation reserve (N-5)	2,200	728
Equity	14,200	2,728
Non-current liabilities		
Loan	5,600	-
Intra-group balance owing to VisionCorp (N-6)	-	5,000
Current liabilities	300	572
Total equity and liabilities	20,100	8,300

Notes.

(1) VisionCorp transfers TSL budget IT solutions product to NTL on a full cost-plus basis according to group policy. On average, this transfer price is about 80% of the fair value of the price that would need to be paid following an acquisition.

(2) Operating expenses of NTL include management charges from VisionCorp for central services such as IT, finance, legal, and marketing. Such costs are allocated to subsidiaries based on the number of employees. Operating expenses of NTL also include depreciation of Rs. 200 million.
(3) NTL uses historical cost to measure property, plant, and equipment. Their fair value is currently Rs. 8,000 million.
(4) The VisionCorp Group policy requires NTL to take delivery and hold the inventories once the goods have been manufactured. The inventories are held on a sale or return basis, but all such inventories are recognized in the financial statements of NTL.
(5) NTL pays out all profits after tax as dividends to Vision Corp.
(6) The intra-group balance is repayable on demand.

Other Information:

- The revenue and costs of TSL's existing business are unlikely to change in the immediate future if NTL is acquired.
- The consideration for the acquisition would be two newly issued SL ordinary shares plus cash for every NTL share. The amount of the residual cash payment will be determined by the agreed valuation of NTL. TSL ordinary shares are currently trading at Rs. 12 each.
- VisionCorp will not continue to extend the intra-group loan beyond 1 January 2025 if the acquisition takes place. As a consequence, TSL has approached an investment bank to identify a method of NTL refinancing this debt. The only feasible refinancing identified is Rs. 5,000 million 15% convertible bonds issued at par, which would also be their fair value. These bonds would be issued by TSL. Interest would be payable annually in arrears. Each Rs.100 bond would be convertible into 15 TSL shares at any time up to maturity on 31 December 2027. The annual rate of interest for similar bonds without conversion rights is 18%. It should also be assumed that the convertible bonds would all be converted eventually into new equity.

Requirements:

You, as the Corporate Strategy Analyst at TSL, are required to prepare a report for the Board covering the following:

a) Evaluation and Comparison of the Two Expansion Strategies [15 Marks]

Evaluate the strategic fit of both options, their associated risks, and potential synergies.

b) Analysis of Potential Earnings Impact [15 Marks]

Using the financial data in Exhibit:

- Compare the profitability profiles of both strategies.
- Discuss the possible impact on TSL’s earnings in 2025 if each strategy is implemented.

c) Indicative Valuation of NTL [15 Marks]

Using the 2024 financial data and reasonable valuation methods.

d) Financing Considerations [15 Marks]

Discuss the potential financing structure for the NTL acquisition.

Note:

- The corporate tax rate is 29%**.**
- Assume that revenues and costs for TSL’s existing business will remain constant in the short term.

Suggested Solution/ Answer:

Part (a)

TSL is evaluating two expansion strategies, both of which leverage its core competencies but differ significantly in risk and approach. Strategy 1 involves market development, targeting a new sector within the same industry using existing products at different price points. This strategy offers several advantages: it utilizes current resources effectively, aligns operational activities with existing capabilities, and seeks to tap into a new market as the core market declines. It has a positive projected net present value (NPV) of Rs. 672.5 million but poses risks, such as potential cannibalization of higher-priced products, reputational damage, slow cash inflows in early years, and reliance on market research for demand validation.

In contrast, Strategy 2 is characterized as related diversification, involving the acquisition of NTL to access the commercial market, which presents higher profit margins and avoids sales loss to existing customers. However, it carries greater risks, including a lack of current market knowledge within TSL, dependence on the acquired company's management, possible HR challenges, and significant initial costs that could result in substantial sunk costs if the venture fails. The acquisition price remains uncertain, adding to the strategy's risk profile.

The TSL board believes it lacks the resources to pursue both strategies simultaneously, suggesting that Strategy 2 may stretch financial resources too thin. While Strategy 1 presents lower risk and easier financing, its potential growth and value may be limited. The board may also explore alternative growth avenues, such as product development, particularly in light of technological advancements in TSL budget IT solutions

In conclusion, Strategy 1 is deemed less risky but may yield limited returns, while Strategy 2 offers greater growth potential but involves significant financial commitment and risk. A careful evaluation of market conditions and acquisition costs is crucial before making a decision.
More information is needed to assess the reliability of the data for both strategies.

WORKING 1 – **NPV of Strategy 1**

			Rs '000'
Year	**Revenue**	**Profit margin (15%)**	**PV at 20%**
2025	600,000	90,000	75,000
2026	1,200,000	180,000	125,000
2027 onwards	2,400,000	360,000	1,250,000
		NPV	**1,450,000**
		Opportunity Costs	(177,500)
		Outlay	(600,000)
			672,500

*It is assumed that the lost cash flow before tax from the reduction in sales of higher-priced TSL products would be equal to the gross profit percentage on sales in the current year (= 1,200,000/4,800,000 = 25%).
Lost contribution margin each year = Rs. 200 million × 25% = Rs. 50 million
Lost contribution net of tax at 29% = (Rs. 50 million× 0.71) = Rs. 35.5 million
PV of lost sales = 35.5 million/0.2 =Rs.177.5 million

Part (b)

Determining EPS

(i) **Strategy 1 – EPS year ending 30 June 2025**

It is assumed that with Strategy 1, earnings from the existing business would be the same as in the current year plus the after-tax profit from the new business, minus the opportunity cost of lost sales after tax, and minus a charge for depreciation of the new non-current assets purchased.

We know only that investment and reorganization costs would be Rs. 600 million. We do not know how much of this is investment, and we do not know the depreciation policy of TSL.

As a rough estimate, it is assumed that investment costs will be Rs. 200 million and the average depreciation rate will be 10% on cost, allowing for tax benefits. However, this figure will have to be re-assessed when more reliable information is available.

	Rs. '000'
Earnings from existing business	426,000
Earnings from budget IT solutions company in 2025	90,000
Loss of earnings (opportunity costs)	(177,500)
Additional depreciation	(40,000)
Earnings Attributable to Shareholders	**298,500**

EPS= 298,500,000/1,200,000,000= Re. 0.249

(ii) **Strategy 2 – EPS year ending 30 June 2025**

	Notes	TSL	NTL	Rs. million Consolidated
Revenue	1	4,800	2,736	
Cost of sales	2	(3,600)	(1,710)	
Gross profit		1,200	1,026	
Operating expenses	3	(300)	(514)	
Profit from operations		900	512	
Additional marketing	4		(60)	
Additional depreciation	5		(29)	
Finance costs	6	(300)	(841)	
Profit before tax		600	(418)	
Tax 29%	7	(174)	121	
Profit for the year		**426**	**(297)**	**129**

Notes:

(1) **Revenue**
2,400 × 1.14 = 4,800

(2) **Cost of sales**
The price paid after acquisition = 1/0.80 (*) = 1.25 of current costs. It is assumed that this will apply to the full cost of sales of NTL
Cost in 2025: 1,200 × 1.25 × 1.14 = 1,710
*Adjustment of transfer price to fair value

(3) **Depreciation adjustment**
Depreciation will increase following the adoption of fair values on acquisition. Assumed this to be pro rata to the historical cost and fair values of PPE, thus depreciation is:
Rs. 200 million × 8,000 million/5,100 million = Rs.313.73 million
This is an increase of Rs.113.73 million; therefore operating expenses are now Rs. 513.73 million. (This assumes no adjustment for savings in centrally provided services.)

(4) **Marketing**
Rs. 60 million: assumption is given in the question

(5) **Additional depreciation**
Rs.720 million × 4% = Rs.28.8 million
This is a rough estimate of the depreciation of NTL on initial costs of Rs.720 million based on the existing ratio of depreciation to carrying amount of Rs. 200 million/Rs.5,100 million.

(6) **Finance costs – Convertible instrument**
This is a compound financial instrument which needs to be split between debt and equity components. The debt value is:

(7) Cash interest is Rs. 5,000 million x 15% = Rs.750 million

		Rs. million
PV of Interest payable 2025	(750/1.18)	636
PV of Interest payable 2026	$(750/1.18)^2$	539
PV of Interest payable 2027	$(750/1.18)^3$	456
PV of Principal payable 2027	$(5{,}000/1.18)^3$	3,043
PV of the liability component		4,674
PV of equity component (residual)		326
FV of bond		5,000

Finance charges are as follows:

				Rs. million
Year	**Opening Balance**	**Interest 18%**	**Cash paid**	**Closing Balance**
2025	4,674	841	750	4,765
2026	4,765	858	750	4,873
2027	4,873	877	750	5,000

(7) EPS and diluted EPS
An effective tax rate of 29% is assumed.
Basic EPS:
There are currently 1,200 million shares in issue by TSL.
If a share for share exchange plus cash takes place, then an extra 400 million TSL shares will be in issue, raising the total to 1,600 million. These are assumed to be issued at the beginning of 2025 so they will count in full.
Thus, basic EPS is: Rs. 129 million/1600 million = Re.0.081
The acquisition therefore has a lower EPS than Strategy 1 in the first year.
Diluted EPS
[Rs.517 million+ (Rs. 841 million (1 – 0.29))]/(1600million + 750 million*) = Re.0.474
The convertibles are therefore not dilutive.
* (Rs. 5,000 million/Rs.100) × 15 = 750 million

Part (c)

Valuing NTL
(i) **Context of valuation**
The context of the valuation is to make an initial bid for NTL. The estimates therefore are made on the conservative side as the opening valuation is likely to be pushed upwards during the negotiation process. Nevertheless, the figures are drawn up to be justifiable both in term of the methodology and the estimates used.
(ii) **Adjusted earnings based valuation**
Revenue of NTL is Rs. 2,400 million in 2024 but growing at 14% pa.
The fair value of cost of sales when the company is not part of the group is Rs. 1,200 million/0.8 = Rs. 1,500 million.
As these are all assumed to be variable costs, the growth rate will be 14% in accordance with volume.
Applying the valuation model for growth in perpetuity:
The present value of the gross profit income stream is:
(Rs. 2,400 m – Rs.1,200 million)x 1.14/(0.20– 0.14) = Rs. 22,800 million

The present value of fixed cash costs then needs to be deducted from this figure.

	Rs. million
Fixed operating costs	400
Less depreciation (not a cash cost)	(200)
Additional Capex per annum	720
Additional marketing costs	60
Fixed operating cost cash flows	**980**

PV of fixed operating cash flows = Rs.980 million/0.20 = Rs.4,900 million
MV of debt is = Rs.4,900 million

The PV of the tax payments presents more of a challenge as revenues and variable costs are inflating at 14%, finance costs are increasing, but other costs are assumed constant. This has an uncertain effect on profit and thus on tax.
Also the tax rules are likely to change over time.
In addition, capital allowances will be based on the existing tax pool (which is unknown) plus Capex additions.
The calculation below is therefore prudent and based on a crude but simple assumption that tax will be at 29% of the cash flows calculated above. It is also assumed that it grows in line with sales volumes at 14%. This gives

	Rs. million
Gross Profit	900
Fixed Costs	980
Taxable	(80)
Tax at 29%	**(23)**

PV= 23 x 1.14/ (0.2-0.14)= Rs. 437 million

Summary	
	Rs. million
PV of gross annual profit in perpetuity	22,800
PV of fixed operating expenses	(4,900)
PV of annual tax relief	437
Enterprise value	18,337
PV of debt	(5,000)
Equity value	**13,337**

On the basis of the stated assumptions, an estimate of the equity value of NTL is Rs. 13,337 million.

Part (d)

The proposed financing for the acquisition of NTL involves significant considerations. A two-for-one share exchange at a value of Rs.12 per share results in a total valuation of Rs.4,800 million for TSL, which has Rs.3,200 million in cash. However, after assuming VisionCorp will withdraw Rs.640 million from NTL as a dividend before the sale, TSL faces a financing shortfall of Rs.7,237 million. It is anticipated that this shortfall would be covered through a convertible bonds, but the interest on such borrowing would increase costs. Moreover, NTL is expected to incur losses in 2025, making the bid of Rs.13.337 billion appear excessive without strong assurances of future growth. Currently, TSL's share price of Rs.12 reflects a high P/E ratio of 33.8, which is concerning for a non-growth company and raises doubts about its sustainability. The illiquid market for TSL shares complicates matters further, and there are concerns that VisionCorp may not accept the Rs.12 valuation for the shares in the deal. Therefore, it is recommended that TSL seek guidance from its sponsoring bank to reassess the share valuation, as any inaccuracies could jeopardize the acquisition of NTL. Overall, the share price is a critical factor in the financing strategy, and there are strong doubts about its current validity.

Practice Case-5

Phantom Automobile Group (PAG) is a leading player in the automotive industry comprising Phantom Automobile Limited (PAL) and its two subsidiaries. The group is competing with more than fifteen competitors in a highly competitive environment. PAL was established in 2017 through a management buy-out (MBO) from a listed company Albert Engineering Limited (AEL) and is managed by four key MBO Team Members.
PAL is situated at a large, relatively under-utilized site. The site was purchased from AEL at the time of MBO. A part of the under-utilized site was sold to a Telecommunication Corporation during the year 2025 which has resulted in a substantial capital gain on sale.

Mr. Sajid Zafar is the Chairman of the group. He and his family own 65% of the 1,000,000 ordinary shares of Rs.10 each in PAL.

Since MBO, the group has witnessed a drastic increase in the annual revenue.

You, are an Audit Manager of Spencer Consultancy Firm (SCF) and have recently conducted the audit of PAL for the year ended June 30, 2024.

You have received the following memorandum from the Audit Partner of SCF.

MEMORANDUM:

As you may be aware that Mr. Sajid Zafar is proactive to realize his investment from the group so he may opt for another investment opportunity. He also desires that the realization of his investment does not undermine the ability of the company to grow. But at the moment it appears that he is reluctant whether to retain control of the business or may deviate to the prospective opportunity.

There a number of issues that Mr. Sajid is confronting:
- He is keen to know the worth of his holding in the group and the suitable method for realizing his investment
- As the staff has grown substantially since 2017 to 2020 and there are now some very highly motivated managers in the business. Mr. Sajid is concerned about the following, if he does relinquish control:
  - The impact that a change of ownership may have on staff.
  - The problems that might develop if new owner(s) acquire the majority shareholdings.

In order to keep his management personnel contented, Mr. Sajid is willing to introduce a share option scheme as part of remuneration package for the managers to incentivize them, and for that purpose he would like us to provide a feasibility report. He is concerned as to how the issue of such options may impact the financial accounts of the business and the audit procedures.

Apart from Mr. Sajid's decision to realize his investment, he is anxious about the issue of sustainability that needs to be prioritized at Phantom Automobile Limited, and has saved extracts from several newspaper articles related to this area (**Annexure 2**). He believes that the other three shareholders are rather dismissive of it and think that the success of PAL should only be judged on financial aspects. He has asked us for any comment we have to offer on the importance of sustainability for businesses.

Requirement:

Prepare a report for the audit partner, addressing all the areas of concern of Mr Sajid and deliberating the following:
a) A discussion of the possible options available to Mr. Sajid for realizing his investment. **[15 Marks]**
b) Using the information in the as appended in (**Annexure 1**), estimate the value of Mr. Sajid's holding, using the following valuation methods:
   a. Dividend growth **[15 Marks]**
   b. Free cash flows **[15 Marks]**

   Note: You may ignore the tax issues that might arise if Mr Sajid realizes his investment.
c) Identify the problems which might arise if new owners acquire a majority shareholdings in the group and using the information from the newspaper articles (**Annexure 2**) as appropriate, explain the importance of sustainability to Phantom Automobile Limited. **[15 Marks]**

ANNEXURE-1

Phantom Automobile Group
Information Pack – for the year ended June 30, 2025

1) History

The group was the subject of a management buy-out from Albert Engineering Limited (AEL), in 2017 and continues to be owned and managed by a buy-out team. The shareholding ownership structure is as follows:

Name	Shareholding
• Mr. Sajid Zafar and Family	65%
• Mr. Ghazanfar Khan	12%
• Mr. Luqman Baig	12%
• Mr. Azeez Kamal	11%

2) Possible flotation

The possibility of PAL for floating shares is presently under review. The share flotation will enable the shareholder directors to realize some of their investment in PAL and provide access to capital markets.

3) Competitors

The group is diverse in activity; the companies that most closely resemble PAL are Faisal Engineering Limited (FEL) and Crest Allied Limited (CAL).

4) Management

The subsidiaries of PAL are managed at an operational level by three of the shareholder directors.
The fourth, and majority, shareholder director is the group's Chairman who provides strategic direction to the group.

5) Capital expenditure

PAL recognizes the need to replace existing plants over the next few years due to normal wear and tear and also the need to maintain its competitive advantage by applying the latest technology.

6) Summary trading results

The impact of investment and the benefit of productivity improvements have resulted in a reduction in employee numbers while continuing to increase output. Sales, profit and staff number growth have been as follows:

Rs. in million

Years	2020	2021	2022	2023	2024	2025
Sales	68,400	70,376	75,810	79,068	83,482	83,594
Cost of sales	48,358	50,248	53,370	53,054	53,516	53,542
Gross profit	20,042	20,128	22,440	26,014	29,966	30,052
Operating costs	13,092	12,942	14,738	17,098	21,378	21,442
Operating profit	6,950	7,186	7,702	8,916	8,588	8,610
Profit on disposal of property	–	–	–	–	–	26,768
Profit before interest	6,950	7,186	7,702	8,916	8,588	8,610
Interest	(1,700)	(1,300)	(1,920)	(1,960)	(1,240)	1,198
Profit before tax	5,250	5,886	5,782	6,956	7,348	9,808
Tax	(1,523)	(1,707)	(1,677)	(2,017)	(2,131)	(2,844)
Profit after tax	3,728	4,179	4,105	4,939	5,217	6,964
Dividends	1,640	1,700	1,776	1,844	1,920	2,000
Staff numbers	522	515	511	502	494	490
Gross profit margin	29.3%	28.6%	29.6%	32.9%	35.9%	35.9%

The following the property disposal in this most recent year, PAL has Rs.35,200 million of cash on its statement of financial position.

7) Forecast figures 2026 – 2030

- Sales and gross profits to rise by 10% each year.
- Other operating costs excluding depreciation to rise by 3% per annum.
- Depreciation for the year 2026 to remain at the 2025 figure of Rs. 4,000 Million; the only change in the period 2026-2030 is a rise to Rs. 5,200 million from the year 2029 due to the acquisition of new assets.
- Significant expenditure of Rs. 12,000 million on non-current assets in the year 2029. Other non-current asset acquisitions and disposals to cancel out each year.
- The interest for 2026-2030 will remain at 2025 level.
- Working capital levels to increase at the start of each year to be 10% of that year's predicted sales.
- Tax to be charged at 29% of taxable profits over 2026-2030. Depreciation is fully tax allowable against profits.

8) Sector and company information

The current risk-free interest rate is 11%. The following company and sector information is provided.

	Company	Sector
P/E ratio	12.3	9.625
Beta	1.00	0.65
Expected return	18.00%	N/A

Annexure: 2

Extracts from press articles about sustainable automobile production

'The increased awareness and sheer interest in economic and environmental concerns of stakeholders at this point of time has led manufacturers to develop consistently environmental friendly automobiles and related products that contribute to a better environment.'

'Building a more environmentally friendly business for the future'.

Crest Allied Limited (CAL) has recently launched new design and battery concepts which includes, fuel cells that will have a clear advantage over these older technologies in having lower carbon dioxide (a greenhouse gas) emissions. The company is keen to make a contribution to ensure sustainable development in reducing its environmental footprint. Another key player in the engineering company, Faisal Engineering Limited (FEL) that has introduced a new design hydrogen powered vehicles. It will significantly reduce the company's carbon footprint, as well as saving costs on raw materials.'

'Consumers are demanding more renewable materials and environmental labelling on the products they buy. Many rate hydrogen automobiles as the most eco-friendly type and 38% of consumers said they regularly search for environmental labels and logos on vehicles manufacturing.'

'According to CAL's CEO, 'the findings [of a survey] reinforce the importance of putting environmental issues at the heart of the company's agenda… We have no illusions about the challenges we face, but by finding new ways to eco-friendly vehicles, we will make a difference for the future'.'

Suggested Solution/ Answer

Question Number: 1

Part: A

There are numerous ways in which you could sell part of your shareholding in PAL. I outline the possibilities of:

- **Option 1** Flotation of PAL with subsequent open market sale of shares to the general public
- **Option 2** Sale of shares to a private investor or institution prior to flotation/instead of flotation
- **Option 3** Sale of the business to a competitor or customer
- **Option 4** Sale of your shares to some of your fellow directors or employees
- **Option 5** maintaining your existing shareholding but obtaining a cash withdrawal from the company

Option 1: Flotation

Should the company be floated, you would obtain a better price per share for your investment, since your shares would be more easily marketable than is currently the case as a private limited company.

There are several advantages from PAL's viewpoint:

- Increased access to third party capital
- Increased marketability of shares
- An increased public profile for the company resulting in greater shareholder confidence
- The possibility of using a share-for-share exchange if in the future PAL wishes to expand by acquiring other companies.

Disadvantages of flotation include the costs of obtaining a flotation and the management time involved.

Regulation by the Pakistan Stock Exchange will mean increased reporting requirements, such as the need for interim financial statements. The Pakistan Corporate Governance Code also requires a number of procedures to be introduced which limit the power of senior management (such as the appointment of non-executive directors and audit committees). These may not fit easily into the corporate culture of PAL.

You should also bear in mind that your wish to retain control of the company is likely to depress the price you could obtain for your shares, since any prospective shareholders would be buying into a non-controlling (minority) interest in the company. Since the non-controlling shareholders (minority interest) have little protection should you subsequently disagree with them over business decisions, they are likely to be prudent in valuing shares. Some investors are historically unwilling to invest in companies which have a dominant shareholder. The discount arising as a result of your dominant shareholding would be unlikely to be very large, however, as most listed company shareholders (other than large institutional shareholders) have virtually no ability to influence business decisions.

Any shares which you retained would be quoted either on the Pakistan Stock Exchange or the alternative Investment Market. This option would make any later disposals/realizations easier which may be of importance when, say, you retire.

Option 2: Sales of shares to third party

Flotation would increase the market value of your shares, since the shares are more easily realizable into cash. As discussed the costs of flotation are high and you will ultimately bear 65% of those costs.

It may be possible therefore to sell some of your shares to a private or institutional investor.

The valuation includes a discount for non-marketability of the shares. As noted earlier, a flotation increases the marketability and price of shares and so would be likely to raise more funds for you.

If you were willing to sell a shareholding of at least 50% of the voting shares, this would be likely to attract a control premium, increasing the proceeds you could obtain on realization of your investment.

Once again, however, it is unlikely that a third party would be willing to pay a high sum for your shares whilst you retain a controlling interest.

Option 3: Sale of business to competitor or customer

The market you operate in is competitive, with more than 15 competitors headed by listed companies. I am aware that some companies are very similar to PAL and others may be interested in diversifying their business risk. They could do this by acquiring shares in your company in return for shares in themselves. Although it would be impossible to achieve your aim of retaining control of PAL by doing this (since the acquiring company would certainly require a controlling interest) this option may be a desirable method of increasing the liquidity and marketability of your investment whilst avoiding the costs associated with flotation.

Also, some of your customers may be interested in vertical integration and this may make them a potential acquirer. There are a lot of potential investors to allow you to choose the most beneficial offer.

Option 4: Sale of shares to fellow directors

It appears likely that some of your fellow directors would be interested in purchasing shares from you.

As you have worked together for some time, you would be likely to obtain a fair price while still having investors who would be willing to accept your desire for a controlling interest in the short term.

This option would be unlikely to generate the most cash for you however, and it relies upon your fellow directors having the cash available to purchase your shares. It could easily be used as a means of satisfying your desire to reward your staff and fellow directors for their loyalty.

Option 5: Cash withdrawal

This could be achieved in one of three ways.

Bonus payment

As a controlling interest, you may elect to pay yourself a very large salary. Although not technically requiring the consent of the other shareholders, this may be seen as a breach of fiduciary duty and in an extreme circumstance could precipitate an action under the Companies Act for unfair prejudice against the non-controlling (minority) shareholders. It may not therefore be desirable.

Should you nevertheless decide on this method, PAL would obtain a corporation tax deduction for the payment, but you would be taxed on your earnings?

Dividend payment

A fair alternative to allow you to realize cash would be payment of a large dividend. This will have no impact on the corporation tax position of the company, but you would be taxed on this source of income.

Share buy-back

Finally, the company could buy back some of the shares you wish to sell. This is governed by the Companies Act, with the over-riding aim that the permanent capital of the company must be maintained. If the company were to buy back all of your shares then the premium on the repayment would need to be covered by distributable reserves and it would be necessary to transfer Rs. 650,000 to a non-distributable capital redemption reserve to cover the reduction in the share capital of the company.

A share buy-back may be treated as either a capital distribution or an income distribution depending on whether it fulfilled the necessary tax conditions. A capital distribution would have the advantage of being taxed at a lower rate than an income distribution. If the company is interested in the idea of the share buy-back, one of my colleagues in the tax planning department will be happy to discuss the tax implications of the buy back with you.

These methods all have the following drawbacks:

- They will severely limit the company's ability to replace its assets and effectively manage working capital.
- They will probably remove the possibility of the company growing by acquisitive growth, since acquisitions of other companies are normally at least partially financed by cash.
- They rely upon the company having the necessary liquid resources, although the company is currently cash rich, holding cash balances of Rs. 35,200 million following the sale of land.
- In essence, realization of your investment by these means is undesirable and should be discounted.

Part: B

Establishing a fair value of your holding in the company is extremely difficult since certain factors make PAL difficult to compare to other companies, specifically:

- An investor purchasing into PAL would be unlikely to participate in dividend policy, so the value they should ascribe to the company may rationally be based upon past dividend growth, using a method such as Gordon's dividend growth model.
- The earnings of the company in 2025 are significantly increased by the exceptional gains on the sale of property. Although this would be included in the EPS measure of the other similar companies it is unlikely that these companies will have included items of such a sale this year, so it is best to exclude the exceptional item when undertaking any comparative analysis.

Dividend growth model valuation:

Dividend growth has been reasonably stable over the last six years, and we could calculate the growth rate using

$(1+g)^5 = 1- \sqrt[5]{(2,000/ 1640)} = 1.040$

So

g=0.040 or 4%

Based on the market information available, the required return for the business can be calculated using the capital asset pricing model as

ke = rf + Beta (rm – rf) = 11 + 0.65 (18 – 11) = 15.55%

And putting these into the dividend valuation model gives a business value of

$P_o = d_1 / r_e - g$ = 2,000,000,000 x 1.04/ (0.1555-0.04) = Rs. 18,008.65 million

	Rs. Million
Total business value	18,008.65
Value of your proportion (65%)	11,705.63

Free cash flows valuation:

	2026	2027	2028	2029	2030
			Rs. Million		
Sales	91,953.40	101,148.74	111,263.61	122,389.98	134,628.97
Gross Profit	33,057.20	36,362.92	39,999.21	43,999.13	48,399.05
Operating costs excluding depreciation	(20,229.46)	(20,836.34)	(21,461.43)	(22,105.28)	(22,768.44)
Depreciation	(4,000)	(4,000)	(4,000)	(5,200)	(5,200)
Operating Profit	8,827.74	11,526.58	14,537.78	16,693.86	20,430.61
Interest	1,198.00	1,198.00	1,198.00	1,198.00	1,198.00
Profit before tax	10,025.74	12,724.58	15,735.78	17,891.86	21,628.61
Tax at 29%	(2,907.46)	(3,690.13)	(4,563.38)	(5,188.64)	(6,272.30)
Add back depreciation	4,000.00	4,000.00	4,000.00	5,200.00	5,200.00
Capital expenditure				12,000.00	
Working capital	(9,195.34)	(10,114.87)	(11,126.36)	(12,239.00)	(13,462.90)
Free cash flow	1,922.94	2,919.58	4,046.04	17,664.22	7,093.42
Discount factor	0.865426222	0.74896255	0.64817183	0.5609449	0.48545642
Present value	1,664.16	2,186.65	2,622.53	9,908.65	3,443.54
Net present value	**19,825.54**				

	Rs. Million
Value of an equivalent listed company	19,825.54
Value of proportion (65%)	**12,886.60**

The valuation is rather lower than the valuation suggested by the other two methods. However that is connected with the timeframe of the forecast, and extending it beyond 2030 is likely to give a higher valuation.

Conclusion:

These different valuation bases have produced similar though different results, indicating that a value somewhere in the range of Rs. 11,705.63 million – Rs. 12,886.60 million should be achievable. This is clearly a broad range leaving plenty of scope for negotiation. The value you may ultimately realize will be very dependent on market conditions and the market appetite for new issues at the date of any flotation.
With personal wealth of this magnitude, we strongly advise that you begin to plan for both capital gains tax and inheritance tax at your earliest opportunity. Our colleagues in the tax planning department will be pleased to assist you.

Part: C

Problems associated with a change of ownership

If a controlling interest is sold to a competitor or another business, then the changes made to PAL are likely to be more extensive than if you retain a controlling interest. Even if you keep a non-controlling (minority) interest, the power you have to influence matters may be limited, and the success of change of ownership will depend on the attitudes and actions of the new owners.

Problems may include:

- Lack of integration plans. Plans need to include changed reporting relationships, information and resource requirements and redefined strategic objectives.
- Inflexibility of integration plans. After the takeover the new owners need to be willing to adapt their initial plans.
- Poor man management. Even if managers are highly motivated under the current arrangements, they may not remain so if there is a lack of communication of goals and future prospects.

- Cultural differences may also result in a lack of communication, and these will be enhanced if the acquirer's management team show a lack of respect for what PAL has previously achieved.

Issues connected with sustainability and the importance of sustainability

Environmental concern – The concept of sustainability is often used in the context of environmental sustainability; for example, reducing greenhouse gas emissions, reducing waste or increased recycling.

The newspaper articles highlight that these aspects of environmental sustainability are very important in the automobiles industry.

Customer and consumer requirements – Importantly, however, this environmental concern isn't confined to the packaging and carton companies themselves, but environmental issues are becoming increasingly important to customers and consumers. As such, they could have financial implications for PAL. If customers – particularly large B2B customers – want the packaging they use for their food products to be environmentally friendly, and PAL's packaging doesn't meet their requirements in this respect, it is possible that the customers might switch suppliers – for example, to either CAL or FEL who appear to be paying considerable attention to these issues.

In this respect, environmental sustainability could be more closely linked to the interests of your fellow shareholders than they might think.

Competitive disadvantage – The newspaper articles also highlight that CAL and FEL have been developing new types of environmentally-friendly packaging. We are not sure whether PAL has been taking any similar steps, but if not, this could lead to it being at a competitive disadvantage to its competitors.

On the one hand, it will increasingly not be able to offer customers the environmentally-friendly packaging they want; and on the other, PAL is in danger of being seen as less innovative than its competitors.

PAL has correctly identified a need to maintain its competitive advantage by employing the latest technology; but it needs to complement this by also offering innovative products and ones that meet customer requirements.

In this respect, the cost implications of different products could also affect PAL's competitive advantage. It appears that, not only are the new products developed by CAL and FEL environmentally friendly, they also allow the companies to make savings on their material costs. Here again, the links between sustainability and financial benefit might be closer than at first thought, and adopting an environmentally friendly approach would seem to create a 'win-win' situation for the business.

Sustainability and strategy – However, whilst environmental issues are an important aspect of sustainability, they are by no means the only aspect. Although the newspaper articles you have collected seem to focus primarily on environmental performance (for example, in relation to recycling or carbon emissions), you should look at sustainability in a wider context; including also social and economic dimensions.

Social dimension – You have already identified that you now have some very highly motivated managers in the business, and it is important to retain them. In more general terms, being seen as an attractive employer could help PAL to recruit and retain high quality staff; and offering good quality working conditions, training and opportunities should help to maintain employee motivation.

These social dimensions, in turn, should benefit the performance of the company.

Economic dimension – We have already alluded to the economic dimension of sustainability with reference to PAL's competitive position and innovation, but more generally issues such as effective corporate governance, risk management and customer relationship management are all likely to be important to the continuing success of the business.

Business sustainability – The economic dimension of sustainability should also encourage a focus on the long-term viability and success of the business. Clearly, PAL has been successful in recent years – with increasing sales, profits and productivity – but the notion of sustainability should challenge you and the other shareholders to consider how the business' success can be maintained into the future. In particular, is the group adopting strategies that can deliver it long-term competitive advantage?

Importantly, once your fellow shareholders start considering this idea of business sustainability they may also look at a more balanced range of performance indicators, rather than concentrating on short-term financial performance indicators only. Doing so should also encourage them to think about the risks and opportunities which could shape the longer-term prospects and performance of the business.

Perhaps more importantly though, the idea of sustainability should encourage the current shareholders and any future owners of the business to think about the longer-term consequences of any decisions they make, to ensure that those decisions have the best chance possible of creating value over time.

THE END