FINAL EXAMINATION

December 2024

P–20A(SPMBV)
Syllabus 2022

STRATEGIC PERFORMANCE MANAGEMENT AND BUSINESS VALUATION

Time Allowed: 3 Hours | Full Marks: 100

The figures in the margin on the right side indicate full marks.

All workings must form part of the answer.

Where considered necessary, suitable assumptions may be made and clearly indicated in the respective answer.

Section-A

Answer to *Question No. 1* which is compulsory

1. (a) Choose the correct answer from the given alternatives. 2×10=20

(i) Performance management is a key concept in the field of ___________.

(A) Human Resource Management

(B) Financial Management

(C) Technical Analysis

(D) Marketing Management

(ii) Which model has a tactical orientation in evaluating the financial performance of an organization?

(A) Customer lifetime value model

(B) Customer profitability analysis

(C) Balanced Scorecard

(D) Six Sigma

(iii) Mura and Muri refer to _____ and ______ respectively.

(A) unevenness, waste

(B) unevenness, overburden

(C) overburden, waste

(D) overburden, poka-yoke

(iv) If the price (P) is equal to average cost (AC), what is the profit condition of the firm?

(A) The firm incurs a loss.

(B) The firm breaks even.

(C) The firms earn super normal profit.

(D) The firm shuts down.

(v) What type of risk is associated with the difficulty of selling an asset quickly without a price discount?

(A) Liquidity risk

(B) Credit risk

(C) Market risk

(D) Operational risk

(vi) The 10 year Government bond yield is 7.5% and the BSE Sensex return over the last one year is 15%. Assuming the company's Beta is 1.2, what is the required return on equity?

(A) 15.6 Percent

(B) 16.6 Percent

(C) 16.5 Percent

(D) 17 Percent

(vii) X Ltd has ₹100 crores worth of common equity on its Balance Sheet comprising of 50 lakhs shares. The company's Market Value Added (MVA) is ₹24 crores. What is company's stock price?

(A) 230

(B) 238

(C) 248

(D) 264

(viii) If the combined entity is more than the sum of its parts, the transaction is said to have created ______.

(A) Combined Value

(B) Net Worth

(C) Synergies

(D) Economic gains

(ix) The number of shares outstanding as on 31/03/2024 for A Ltd. is 10 lakhs and it has reported a net profit of ₹ 20 lakhs for FY 2023-24. The company decides to repurchase 20% shares at ₹ 32 per share. If the P/E ratio remains unchanged after repurchase, the post buy-back price per share is _________.

(A) ₹ 40

(B) ₹ 32

(C) ₹ 25

(D) ₹ 16

(x) Smith Ltd. has announced issue of warrants on 1:1 basis for its equity shareholders. The warrants are convertible at an exercise price of ₹ 15. Warrants are detachable and trading at ₹ 7. What is the minimum price of the warrant if the current price of the stock is ₹ 20?

(A) ₹ 4

(B) ₹ 5

(C) ₹ 7

(D) ₹ 15

(b) Read the following scenario and answer the following questions:

Supreme Toy Manufacturing Co. is a medium-sized manufacturing firm specializing in industrial equipment. It has been operating for 20 years and has built a strong reputation within its niche, serving clients across the automotive, construction, and aerospace industries. The company has two manufacturing plants: Plant A, which focuses on automotive components, and Plant B, which focuses on construction and aerospace components.

Despite consistent growth for a decade, Supreme Toy Manufacturing Co. has faced economic challenges in recent years due to rising raw material costs, increased labor expenses, and disruptions in the supply chain. The firm is under pressure to improve efficiency to maintain its competitive edge.

Company Overview

Revenue from Operations: ₹ 50 million (2023)

Net Income: ₹ 3 million (2023)

Average Assets: ₹ 25 million (2023)

Employee Count: 200 (100 at each plant)

Gross Profit Margin: 20% (2023), a drop from 25% (2022)

Operating Margin: 10% (2023), a decrease from 15% (2022)

Return on Investment (ROI): 12% (2023), down from 18% (2022)

Production Lines: Plant A has 3 production lines (automotive components), and Plant B has 2 production lines (construction and aerospace components)

Downtime: Average of 10% across all production lines, with peaks of 15% during maintenance periods

Labor Costs: ₹ 20 million (2023), a 10% increase from 2022

Raw Material Costs: ₹ 15 million (2023), up by 15% from 2022 due to global supply chain disruptions

Answer the following questions based on the above scenario. 5×2=10

Choose the correct answer from the given four alternatives:

(xi) Given the data about raw material costs, overheads, and labour costs, which strategy would likely have the most significant impact on Supreme's operating margin?

(A) Reduce overheads through energy saving measures

(B) Increasing output per labor hour

(C) Lowering raw material costs by finding alternative suppliers

(D) Implementing price adjustments to align with industry standards

(xii) If Supreme Manufacturing Co. were to invest in new machinery to improve productivity, which of the following would be the most likely outcome?

(A) Decrease in downtime and increase in output per machine hour

(B) Increase in energy consumption and decrease in output per labor hour

(C) Increase in raw material waste and decrease in production costs

(D) Increase in operating margin with no change in net income

(xiii) Given Supreme Manufacturing Co's average downtime rate of 10% and its peaks of 15%, which strategy would be most effective in addressing productivity issues?

(A) Implementing predictive maintenance to reduce downtime

(B) Increasing labor hours to offset production delays

(C) Reducing the number of production lines to focus on core products

(D) Outsourcing part of the production to reduce labor costs

(xiv) Considering the trends in gross margin and operating margin, which of the following is the most plausible reasons for the company's declining profitability?

(A) Poor Customer relationship and shift in the loyal customer base

(B) Workers' unrest and poor productivity

(C) Strained relations with the suppliers

(D) High maintenance cost due to outdated machinery

(xv) If equity multiplier is 2.5, ROE of Supreme Manufacturing Co. for 2023 is

(A) 30%

(B) 3%

(C) 0.3%

(D) 300%

Section – B

Business Valuation

Answer any five questions from Question No.2 to Question No.8 in Section B.

Each question carries 14 marks 14×5=70

2. (a) An efficiently operated Order to Cash (O2C) process creates a seamless value chain between the customer and the business. In light of the statement, briefly discuss the practices used for optimisation of O2C process. 7

(b) Examine the various types of benchmarking, with a focus on how they are categorized based on the nature of the business and the specific practices or processes being benchmarked. 7

3. (a) Given the cost function of a firm

Cost = $300x - 10x^2 + (1/3)x^3$,

Calculate:

(i) Output at which Marginal Cost is minimum.

(ii) Output at which Average Cost is minimum.

(iii) Output at which Marginal Cost = Average Cost . 7

(b) What is Risk Retention? What are the reasons for adopting a Risk Retention strategy? 7

4. (a) Following financial extracts are provided from the accounts of Lotus Ltd. Using Du Pont analysis, **compare** the performance of the company over the years in terms of amounts and in terms of ratios. 7

(₹ in Crore)

Particulars	2023	2022	2021	2020
Net Income	438	423	410	395
Revenue	2620	2450	2340	2240
Assets	1588	1468	1400	1335
Equity	790	726	685	650

(b) Fairy Tale Co. Ltd. has applied for a loan at Maharashtra Credit Bank. Sri Arun Pilgaonkar, the credit analyst of the bank is apprehensive of manipulations in operations as he fears that earnings manipulation is the most distinctive aspect of financial distress. He desires to calculate the Beneish M Score as this according to him is the best model to predict the degree of earnings manipulation.

For this purpose, he furnishes the eight indices as stipulated by the said model:

Index	Score
DSRI	0.500
GMI	1.210
AQI	0.810
SGI	1.250
DEPI	0.904
SGAI	0.730
LVGI	0.400
TATA	0.005

Required:

Calculate Beneish M-score of the company and advise Sri Pilgaonkar whether the company is susceptible to earnings manipulation.

[*Note: Restrict your calculations up to three decimal places*] 7

5. (a) Smart Limited is deciding whether to pay out ₹ 4,00,000 in excess cash in the form of an extra dividend or go in for share repurchase. Current earnings are ₹ 2 per share and the stock sells for ₹ 20. The market value Balance Sheet currently is as follows:

(₹ *in 000*)

Liabilities	Amount (INR)	Assets	Amount (INR)
Equity (F.V. ₹ 10)	1700	Assets other than cash	1900
Debt	600	Cash	400
	2300		**2300**

Required:

(i) Evaluate the two alternatives in terms of the effect on the price per share of the stock, the EPS and the P/E Ratio.

(ii) Which alternative is a better decision for the Company? Why? 7

(b) The following information is available pertaining to Sundar Televisions Ltd. for the financial year ending on 31.03.2024.

Particulars	Amount (₹ in Crores)
Sales	250
Profit after tax	40
Book value	100

The valuer appointed by the company believes that 50% weightage should be given to the earnings in valuation process. He also believes that equal weightage may be given to sales and book value. He has identified three firms viz., Alpha Ltd, Beta Ltd., and Gamma Ltd., which are comparable to the operations of Smart Televisions Ltd.

Particulars	Alpha Ltd. (₹ in Crores)	Beta Ltd. (₹ in Crores)	Gamma Ltd. (₹ in Crores)
Sales	190	210	270
Profit after tax	30	44	50
Book value	96	110	128
Market value	230	290	440

Required:

Compute the value of Sundar Televisions Ltd. using the comparable firm's approach. 7

6. (a) Pinnacle Venture, PE (Private Equity) investor is considering investing INR 4000 million in the equity of Best Systems, a start-up IT company. Pinnacle Venture's required rate of return from this investment is 40 percent and its planned holding period is 5 years. Best Systems has projected an EBITDA of INR 5000 million for year 5. An EBITDA multiple of 6 for year 5 is considered reasonable. At the end of year 5, Best Systems is likely to have a debt of INR 2000 million and a cash balance of INR 600 million.

Required:

(i) What ownership share in Best Systems should Pinnacle Venture ask for?

(ii) What is the post-money investment value of Best Systems equity?

(iii) What is the pre-money investment value of Best Systems? 7

(b) HDC Limited has announced issue of warrant on 1:1 basis for its equity shareholders. The current price of the stock is ₹ 10 and warrants are convertible at an exercise price of ₹ 11.71 per share. Warrants are detachable and are trading at ₹ 3.

Required:

(i) What is the minimum price of the Warrant?

(ii) What is the warrant premium?

(iii) Now had the current price been ₹ 16.38, what is the minimum price and warrant premium? (Consider that warrants are tradable at ₹ 9.75). 7

7. (a) Sandy Co. is contemplating the acquisition of Vindi Co. The values of the two companies are ₹ 20 lakh and ₹ 10 lakh respectively. Sandy Co. estimates that by combining the two firms, it will reduce marketing and other administrative costs by ₹ 50,000 per year in perpetuity. Sandy Co. can either pay ₹ 14 lakh cash or offer a 50% holding in Sandy Co. The opportunity cost of capital is 10%.

Required:

(i) What is the gain from the merger?

(ii) What is the cost of the cash offer?

(iii) What is the cost of the stock alternative? 7

(b) Tarun Ltd. is considering the takeover of Arun Ltd. and Barun Ltd. The financial data for the three companies are as follows:

	Tarun Ltd.	**Arun Ltd.**	**Barun Ltd.**
Equity Share Capital of ₹ 10 each (₹ million)	450	180	90
Earnings (₹ millions)	90	18	18
Market Price of each share (₹)	60	37	46

Required:

(i) Will you recommend the merger of either/both of the companies?

(ii) Analyze independently and justify your answer. 7

8. (a) Mr. Jagdish owns a Drug Store, located in Maliwara Ghaziabad. The drug store sells pharmaceuticals, cosmetics, toiletries, magazines, and various novelties. The most recent annual net income statement of drug store is as follows:

	Amount in ₹
Sales revenue	18,00,000
Costs:	
Cost of goods sold	12,60,000
Wages and Salaries	2,00,000
Rent	1,20,000
Depreciation	60,000
Utilities	40,000
Miscellaneous	30,000
Total costs	**17,10,000**
Net profit before tax	**90,000**

Drug Store's sales and expenses have remained relatively constant over the past few years and are expected to continue unchanged in the near future. To increase sales, Drug Store is considering using some floor space for a small soda fountain. Drug Store would operate the soda fountain for an initial three-year period and then would re-evaluate its profitability. The soda fountain would require an incremental investment of ₹ 20,000 to lease furniture, equipment, utensils, and so on. This is the only capital investment required during the three-year period. At the end of that time, additional capital would be required to continue operating the soda fountain, and no capital would be recovered if it were shut down. The soda fountain is expected to have annual sales

of ₹ 100,000 and food and materials expenses of ₹ 20,000 per year. The soda fountain is also expected to increase wage and salary expenses by 8% and utility expenses by 5%. Because the soda fountain will reduce the floor space available for display of other merchandise, sales of non-soda fountain items are expected to decline by 10%.

Required:

(i) Calculate net incremental cash flows for the soda fountain.

(ii) Assume that Drug Store has the capital necessary to install the soda fountain and that he places a 12% opportunity cost on those funds. Should the soda fountain be installed? Why or why not? 7

(b) Acquiring company is considering the acquisition of Target Company in a stock-for-stock transaction in which target Company would receive ₹ 90 for each share of its common stock. The Acquiring company does not expect any change in its price/ earnings ratio multiple after the merger and chooses to value the Target Company conservatively by assuming no earnings growth due to synergy.

The following additional information is available:

Particulars	Acquiring	Target
Earnings	₹ 2,50,000	₹ 72,500
Number of Shares	1,10,000	20,000
Market Price per Share	₹ 50	₹ 60

Required:

Calculate:

(i) The purchase price premium

(ii) The exchange ratio

(iii) The number of new shares issued by the acquiring company

(iv) Post-merger EPS of the combined firms

(v) Pre-merger EPS of the Acquiring company

(vi) Pre-merger P/E ratio

(vii) Post-merger share price 7

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