Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER - III EXAMINATION - WINTER 2025

Subject Code: MB03000031

Date: 17-12-2025

Subject Name: **Security Analysis and Portfolio Management**

Time: 10:30 AM TO 01:30 PM **Total Marks: 70**

Instructions

1. Attempt all questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

4. USE of SIMPLE calculators AND non-programmable scientific calculators are permitted.

Marks

Q.1 ALL 7 Questions must be Compulsory. **14**

(a) Systematic Risk

(b) Zero Coupon Bond

(c) Calendar Anomalies

(d) Price Earnings Ratio

(e) Market Capitalisation

(f) Green Candle

(g) Risk Free Rate

Q.2 (a) Discuss the differences between an investor and a speculator. **07**

(b) During the past five years, the returns of a stock are as follows. **07**

Year 1	Year 2	Year 3	Year 4	Year 5
0.06	0.05	(0.05)	0.06	0.12

Please note that the return mentioned in bracket represents a negative return.

From this information, calculate: (a) Cumulative Wealth Index and (b) Standard deviation.

OR

(b) Explain various behavioural biases that influence investors' decision-making and support your answer with relevant examples. **07**

Q.3 (a) Assume that you are analysing two companies in the same industry for investment. Which quantitative factors will help you to identify the company that has strong fundamentals? Discuss them. **07**

(b) The following information is available for two stocks. **07**

Particulars	GrowWell Ltd.	ValuePlus Ltd.
Expected return	18%	16%
Standard deviation	11%	10%
Coefficient of correlation	0.6	

Calculate the covariance between these stocks. Also calculate the expected return as well as risk in which both stocks are equally weighted.

OR

(a) "If the markets are efficient, no investor can consistently earn an abnormal return." Discuss this statement in the light of the Efficient Market Hypothesis. **07**

(b) The following information is available for three large-cap mutual funds and Nifty. **07**

Funds	Mean Return(%)	Standard Deviation (%)	Beta
Sundaram Funds	17	15	1.2
HDFC Funds	21	18	1.1
DSP FUnds	19	14	0.8
Nifty	15	11	1.0

The mean risk-free rate was 7%. Calculate the Treynor measure and the Sharpe measure for the funds and Nifty.

Q.4 (a) Assume that you are analysing the price movements of a company's stock. Which three technical indicators would you use to make a buy or sell decision? Explain them with suitable examples. **07**

(b) The following information is available for Zenith Power Bond: **07**

Face Value: Rs. 100

Coupon rate: 10% per annum

Years to Maturity: 5

Current Market Price: Rs. 120

Calculate the YTM of the bond using the approximate formula, and also calculate the Macaulay duration of the bond.

OR

(a) Discuss the concept of the Efficient Frontier in portfolio theory. How does it help investors in making optimal investment decisions? **07**

(b) An investor can borrow and lend at the risk-free rate of 8%. The market portfolio has an expected return of 18% and a standard deviation of 15%. Determine the expected return and standard deviation of the portfolio. **07**

(i) If two-thirds is invested in a risk-free asset and one-third in a market portfolio

(ii) All the wealth is invested in a market portfolio, and additionally, the investor borrows one-third of his wealth to invest in the market portfolio.

Q.5 Laxmi Wealth LLP is an investment advisory firm based in Mumbai, specialising in portfolio management and wealth creation for individual and institutional clients. You have recently joined the firm as a Finance Intern in the Portfolio Research Department. Your reporting manager, has assigned you a task that tests your understanding of portfolio theory and, risk-return analysis.

The firm is currently analyzing two potential equity investments — Shubh Ltd. and Labh Ltd. — both mid-cap companies listed on the NSE. To evaluate their performance, the research team has estimated the probability distribution of returns for these companies under three possible states of the economy. The Nifty index is used as a market benchmark.

The following data summarizes the expected returns of these stocks under each economic scenario:

State of Economy	**Probability**	**Shubh Ltd (%)**	**Labh Ltd (%)**	**Nifty (%)**
Recession	0.2	(18)	(5)	(10)
Normal	0.6	20	15	16
Boom	0.2	30	25	30

You have been assigned a client who is very curious and has moderate knowledge of capital market. He wishes to know how these two stocks behave individually and in combination.

(a) Compute the expected return and the standard deviation of the return for Shubh Ltd and Labh Ltd based on the given data. **07**

(b) Determine the coefficient of correlation between the returns on Shubh Ltd and Labh Ltd and interpret the same. **07**

OR

(a) Calculate the expected return and the standard deviation on a portfolio in which Shubh Ltd and Labh Ltd are equally weighted. **07**

(b) Assuming that the beta of Shubh Ltd and Labh Ltd are 1.2 and 0.9 respectively and the risk free rate is 6%, Write the Security Market Line (SML) equation and determine the required rate of return for these two stocks. **07**

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