

GUJARAT TECHNOLOGICAL UNIVERSITY
MBA-SEMESTER-III-EXAMINATION-WINTER-2024

Subject Code: 1539503**Date: 13/12/2024****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.

Q. No.	Question Text and Description	Marks
Q.1	Definitions / terms / explanations / short questions based on concepts of theory/practical (a) Beta (β) of security (b) Efficient Market Hypothesis (EMH) (c) Sharpe Ratio (d) Diversification (e) Yield to Maturity (YTM) (f) Holding Period return (g) Settlement Cycle	14
Q.2	(a) Distinguish between investment and speculation, providing an appropriate example for each.	07
	(b) A highly volatile stock earns the following returns over six-year periods: R1= 10% R2= 30% R3= 15% R4= -12% R5= 35% R6= 12% Calculate and interpret the following values: 1. Arithmetic mean 2. Cumulative wealth index (CWI) 3. Standard deviation	07

OR

- (b) The probability distribution of the rate of return on a stock is given below: **07**

State of the Economy	Probability of Occurrence	Return
Boom	0.2	30%
Normal	0.5	18%
Recession	0.3	9%

Calculate Expected Return and Risk.

- Q.3** (a) What are the basic assumption and inputs required for Capital Asset Pricing Model (CAPM)? Explain Capital Market Line (CML) and Security Market Line (SML). Also establish intra-relation between them. **07**
- (b) The following information is available. **07**

	Stock A	Stock B
Expected return	24%	35%
Standard deviation	12%	18%
Coefficient of correlation between the two stocks	0.60	

- a) What is the covariance between stocks A and B?
- b) What is the expected return and risk of a portfolio in which A and B are equally weighted?

OR

- Q.3** (a) Explain Risk- Return Trade-off. Discuss the relationship between diversification and portfolio risk? **07**
- (b) The return on two assets under four possible states of nature are given below. **07**

State of nature	Probability	Return on asset 1	Return on asset 2
1	0.40	-6%	12%
2	0.10	18%	14%
3	0.20	20%	16%
4	0.30	25%	20%

Calculate the covariance between the returns on assets 1 & 2?

- Q.4** (a) Discuss the key differences between “Traditional finance” and “Behavioural finance”. **07**
- (b) The market price of a Rs. 1000 par value bond carrying a coupon rate of 14 percent and maturing after 5 years is Rs. 1050. What is the Yield to Maturity (YTM) on this bond? **07**

OR

- Q.4** (a) What is debt rating? Discuss the key features of the methodology used for the debt rating. **07**
- (b) The following information is available on a bond: **07**

Face value: Rs 1000
 Coupon rate: 13 percent (payable annually)
 Years to maturity: 6
 Current market price: Rs 850

Calculate the duration of the bond? Use the approximate formula for calculating the yield to maturity (YTM).

Q.5

CASE STUDY:

Agastya is an IT professional. He is inclined to learn concepts related to stock market. Recently, he learnt about the concept of beta. He thought of applying the concept on stock returns of FCA Co. For this purpose, he collected the following information of Return on FCA Co. and Return on Market.

Year	Return on FCA Co. (%)	Return on Market (%)
1	9	12
2	-3	3
3	18	15
4	30	12
5	12	15
6	24	30
7	3	-3
8	21	24
9	18	15
10	24	24
11	9	12

- (a) Calculate the Beta (β) of FCA Co. **07**
- (b) What is the Characteristic line for FCA Co.? If the return on market is 11%, calculate the return of FCA Co. **07**

OR

Q.5

- (a) Case Study:

Consider the following information for three mutual funds, X, Y, and Z, and the market.

Mutual Funds	Mean Return (%)	Standard deviation (%)	Beta
X	24	22	1.8
Y	16	14	1.2
Z	12	13	0.8
Market Index	10	10	1.0

The mean risk-free rate was 7 percent.

- (a) Calculate the Treynor measure and Jensen measure for the three mutual funds and the market index. **07**
- (b) Calculate the Sharpe measure and M^2 for the three mutual funds and the market index. **07**
