Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER– 03 • EXAMINATION – SUMMER - 2017

Subject Code: 2830203 **Date: 12/05/2017**

Subject Name: Security Analysis & Portfolio Management

Time: 02.30 PM TO 05.30 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Q.1 **(a)** Choose the correct option for the following questions. **06**

1. How many covariances are there in a ten-stock portfolio?
A. 45 B. 10
C. 20 D. 64

2. What is the expected return of an equally-weighted four-stock portfolio? The expected return of each stock is 10%, 18%, 7%, and 23%.
A. 17% B. 14.5%
C. 18% D. 19.4%

3. Market risk is also called
A. non diversifiable and systematic risk B. systematic and unique risk
C. unique and non diversifiable risk D. systematic and diversifiable risk.

4. The beta of the market portfolio is
A. -1 B. 0
C. 1 D. 0.5

5. An investor purchases 400 shares of stock at a price of Rs. 20 per share. The initial margin requirement is 70%. What is the smallest amount that the investor can put up that will satisfy the initial margin requirement?
A. Rs. 7,200 B. Rs. 8,000
C. Rs. 2,400 D. Rs. 5,600

6. To achieve maximum diversification in a two-asset portfolio, investors should choose stocks with correlation of
A. +1 B. -1
C. 0 D. -0.5

(b) Explain the given term in brief **04**

1. Speculation
2. Margin Trading
3. Stop loss order
4. Short Selling

(C) What do you understand by efficient market hypothesis? Briefly explain its different forms of efficiency. **04**

Q.2 **(a)** The probability distribution of the rate of return on a stock is given below: **07**

State of the Economy	Probability	Rate of Return (%)
Boom	0.60	45
Normal	0.20	16
Recession	0.20	-20

Calculate the expected return and standard deviation of return on stock.

(b) Select an industry of your choice and do the industry analysis in present economic scenario. **07**

OR

(b) Define and Differentiate Technical analysis from Fundamental analysis. **07**

Q.3 **(a)** Consider two stocks, P and Q **07**

Stock	Expected Return (%)	Standard Deviation (%)
Stock X	10	18
Stock Y	25	24

The returns on the stocks are perfectly negatively correlated.

What is the expected return of a portfolio comprising of stocks X and Y when the portfolio is constructed to drive the standard deviation of portfolio return to zero?

(b) What is risk? Explain different kind of risk associated with investments in detail. **07**

OR

Q.3 **(a)** The market value of Rs. 1000 par value bond, carrying coupon rate of 12 percent and maturing after 7 years, is Rs 750. What is the yield to maturity on this bond? **07**

(b) What is Duration? Explain the rules of Duration **07**

Q.4 **(a)** The following information is given: **07**

Expected return for the market	=	15%
Standard deviation of the market return	=	25%
Risk-free rate	=	8%
Correlation coefficient between stock *A* and the market	=	0.8
Correlation coefficient between stock *B* and the market	=	0.6
Standard deviation for stock *A*	=	30%
Standard deviation for stock *B*	=	24%

Calculate

(i) What is the beta for stock *A*?

(ii) What is the expected return for stock *A*?

(b) Define investment? Discuss the various marketable and non-marketable investment avenues available to investors. **07**

OR

Q.4 **(a)** Consider the following information for three mutual funds, *X*, *Y*, and *Z*, and the market. **07**

Mutual Fund	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. Calculate the Treynor measure, Sharpe measure, Jensen measure and M^2 for the three mutual funds and the market index.

(b) What do you understand by Portfolio Revision? Explain different formula plan for portfolio revision. **07**

Q.5 Construct the optimal portfolio of with below mention stocks using Sharpe portfolio optimization theory. **14**

Risk free rate of return R_f = 5%

Market return variance σm^2 = 10%

Security	**Mean Return (Ri)**	**βi**	**Unsystematic risk σe_i^2**
A	15	1	30
B	12	1.5	20
C	11	2	40
D	8	0.8	10
E	9	1	20
F	14	1.5	10

OR

Q.5 You have recently graduated with finance specialization and have been hired as a financial planner by Vedanta Securities, a financial service company. Your boss has assigned you the task of investing Rs. 1,000,000 for a client who has a 1 year investment horizon. You have been asked to consider only the following investment alternatives: T-bills, stock A, stock B, stock C and market index. **14**

The economic cell of Vedanta Securities has developed a probability distribution for the state of the economy and the equity researchers of Vedanta Securities have estimated the rate of return under each state of the economy. You have gathered the following information from them.

Return on alternative Investments in %

State of Economy	Probability	T-Bills	Stock A	Stock B	Stock C	Market Portfolio
Recession	0.2	6	-15	30	-5	-10
Normal	0.5	6	20	5	15	16
Boom	0.3	6	40	-15	25	30

Your client is very curious investor who has heard a lot relating to portfolio theory and asset pricing theory. He requests you to answer the following questions.

a. What are the expected return and the standard deviation of return for stock A, B, C and the market portfolio?
b. What is the covariance between the return on A & B?
c. What is the coefficient of correlation between the returns of A and B?
d. What is the expected return on a portfolio in which stock A and B are equally weighted?
e. What is the expected return on a portfolio in which stock A, B and C are weighted 0.4, 0.4 and 0.2 respectively?

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