Seat No.: _____ Enrolment No._____

# GUJARAT TECHNOLOGICAL UNIVERSITY

**MBA - SEMESTER–III • EXAMINATION – WINTER 2013**

**Subject Code: 2830203 Date: 21-12-2013**

**Subject Name: Security Analysis and Portfolio Management (SAPM)**

**Time: 14:30 pm – 17:30 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)** Define investment avenue and Briefly describe the features of any three investment avenues available in financial market. **07**

**(b)** What are the key differences between an investment and a speculation? **07**

**Q.2** **(a)** Discuss the Relationship between Diversification and Portfolio Risk? **07**

**(b)** Write a Short note on Capital Asset Pricing Model. **07**

**OR**

**(b)** What do you mean by risk? Explain Systematic and Non Systematic Risk. **07**

**Q.3** **(a)** What is Macroeconomic Analysis? Discuss any three variables / indicators used to describe the state of economy. **07**

**(b)** Write a short note on Industry Life Cycle Stages. **07**

**OR**

**Q.3** **(a)** Define and Differentiate Technical analysis from Fundamental analysis. **07**

**(b)** Explain the Major Characteristics of the Bond. **07**

**Q.4** **(a)** A stock earns the following returns over a five year period: $R_1$ = 10 %, $R_2$ = 16%, $R_3$ = 24 %, $R_4$ = - 2 %, $R_5$ = 12 %, $R_6$ = 15%. What is the expected return and standard deviation of returns for this stock? **07**

**(b)** A stock earns the following returns over a five year period: $R_1$ = 0.30, $R_2$ = -0.20, $R_3$ = -0.12, $R_4$ = 0.38, $R_5$ = 0.42, $R_6$ = 0.36. Calculate the following: (a) arithmetic mean return, (b) cumulative wealth index, and (c) geometric mean return. **07**

**OR**

**Q.4** **(a)** The probability distribution of the rate of return on a stock is given below: **07**

| *State of the Economy* | *Probability of Occurrence* | *Return* |
|---|---|---|
| Boom | 0.20 | 30 % |
| Normal | 0.50 | 18 % |
| Recession | 0.30 | 9 % |

What is the standard deviation of return?

**Q.4** **(b)** A pension fund manager is considering three mutual funds. The first is a stock fund, the second is a long term bond fund, and the third is a T-bill Money market fund that yields a risk free rate of 8%. The probability distribution of the risky funds i.e. stock and bond fund is as follows: **07**

| | Expected Return | Stand. Deviation |
|---|---|---|
| Stock fund | 20% | 30% |
| Bond Fund | 12% | 15% |

The Correlation between the fund returns is 0.10.

1. What are the investment proportions in the minimum-variance portfolio of the two risky funds
2. What is the expected return and standard deviation of return of such portfolio?

**Q.5** **(a)** The risk free rate is 8% and the expected return is on the market portfolio is 16%. A firm considers a project that is expected to have a beta of 1.3. **07**

1. What is the required rate of return on the project as per CAPM?
2. If the expected return / IRR of the project is 19%, should it be accepted? What is the alpha of this project?

**(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 is 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.5** **(a)** Consider the following information for three mutual funds, *L*, *M*, and *N*, and the market. **07**

| | *Mean return (%)* | *Standard deviation (%)* |
|---|---|---|
| *L* | 15 | 20 |
| *M* | 12 | 11 |
| *N* | 18 | 15 |
| Market index | 13 | 14 |

The mean risk-free rate was 8 percent. Calculate the Treynor measure, Sharpe measure, Jensen measure for the three mutual funds and the market index.

**(b)** The risk-free return is 9 percent and the expected return on a market portfolio is 12 percent. If the required return on a stock is 14 percent, what is its beta? **07**

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