Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER–III • EXAMINATION – SUMMER • 2014

Subject Code: 2830203 Date: 03-06-2014

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)** Gambling is fundamentally different from investment & speculation. In the light of this sentence explain the difference between investment, speculation & gambling. **07**

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

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

What is the expected return and standard deviation of return?

Q.2 **(a)** Explain the contribution of Charles H. Dow in the field of technical analysis. **07**

(b) The risk-free return is 7 percent and the return on market portfolio is 13 percent. Stock P's beta is 0.8; its dividends and earnings are expected to grow at the constant rate of 5 percent. If the previous dividend per share of stock P was Rs.1.00, what should be the intrinsic value per share of stock P? **07**

OR

(b) The market value of a Rs.100 par value bond, carrying a coupon rate of 8.5 percent and maturing after 8 years, is Rs.95. What is the yield to maturity on this bond? **07**

Q.3 **(a)** What the different forms of market efficiency? Explain in context of efficient market hypothesis. **07**

(b) Calculate the duration of : **04**

(i) A fixed income bond with

Coupon rate	12 %
Yield to maturity	12 %
Term to maturity	10 years

(ii) A 10-year level annuity that has a yield of 9 percent. **03**

OR

Q.3 **(a)** Macro-economic analysis is a vital step in the investment process. Explain the various macro-economic factors that need analysis in the process. **07**

(b) The rate of return on the stock of Engage Technologies and on the market portfolio for 6 periods has been as follows: **07**

Period	Return on the stock of Engage Technologies (%)	Return on the market portfolio(%)
1	16	14
2	12	10
3	-9	6
4	32	18
5	15	12
6	18	15

(i) What is the beta of the stock of Engage Technologies.?

(ii) Establish the characteristic line for the stock of Engage Technologies.

Q.4 **(a)** Explain the determination of the optimum portfolio as per the Markowitz model. **07**

(b) The following information is available. **07**

	Stock A	Stock B
Expected return	12%	26 %
Standard deviation	15%	21 %
Coefficient of correlation	0.30	

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 weighted 3:7?

OR

Q.4 **(a)** What are the principles of bond duration? Explain in detail. **07**

(b) An insurance company has an obligation to pay Rs. 325,784 after 9 years. The market interest rate is 9 percent, so the present value of the obligation is Rs. 150,000. The insurance company's portfolio manager wants to fund the obligation with a mix of seven year bonds and perpetuities paying annual coupons. How much should he invest in these two instruments? **07**

Q.5 **(a)** The simplest form of Arbitrage Pricing Theory is consistent with the CAPM. Explain the statement. **07**

(b) Consider two stocks, X and Y **07**

	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?

OR

Q.5 **(a)** What is bond immunization? How can be a bond portfolio immunized? **07**

(b) Consider the following information for three mutual funds, X Growth Fund, Y Top 200 Fund, and Z Infrastructure Fund, and the market. **07**

	Mean return (%)	*Standard deviation (%)*	*Beta*
X Growth Fund	24	22	1.8
Y Top 200 Fund	16	14	1.2
Z Infrastructure Fund	12	13	0.8
Market index	10	10	1.00

The mean risk-free rate was 7 percent. Calculate the Treynor's measure, Sharpe's measure & Jensen's measure for the three mutual funds and the market index.

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