

**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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