

(2 ½ Hours)

Total Marks: 75

- NB: (1) All questions are compulsory.  
 (2) All working notes should form a part of your answer.  
 (3) Specify assumptions, if any, while solving the questions.  
 (4) Figures to the right indicate full marks.

(1) (a) Match the following. (Any 8) (8)

| Column A |                             | Column B |                                   |
|----------|-----------------------------|----------|-----------------------------------|
| 1        | Transaction Cost            | A        | Correlation                       |
| 2        | Security Market Line        | B        | Performance evaluation measure    |
| 3        | Strong form Efficiency      | C        | Variance                          |
| 4        | Standard deviation          | D        | Insider Information               |
| 5        | Covariance                  | E        | Constraints in portfolio revision |
| 6        | Active Portfolio Management | F        | Diversifiable                     |
| 7        | Constant Ratio Plan         | G        | Beta                              |
| 8        | Treynor's Ratio             | H        | Fixed percentage relationship     |
| 9        | Unsystematic risk           | I        | No Transaction Cost               |
| 10       | CAPM assumption             | J        | Outperform benchmark              |

(1) (b) State whether following statements are True or False. (Any 7) (7)

- Given two portfolios with the same expected return the investor would prefer the one with the higher risk.
- The basic assumption in technical analysis is that stock price movement are random.
- The systematic risk of a security is measured by a statistical measure called Beta.
- The longer the maturity period the lower the risk.
- According to Strong form of EMH, insider information can be used to earn above average returns.

6. Financial risk is a function of the financial leverage which is the use of debt in the capital structure.
7. An investment which is easily marketable without loss of money.
8. The lower the credit worthiness of the borrower, the higher is the risk.
9. A portfolio is a group of securities held together as investment.
10. The EMH states that the capital market is efficient in processing information.

- (2) You are required to calculate beta factors and expected returns for Dine Ltd and Dime Ltd using CAPM and offer your comments. Risk free rate of return is 7%: (15)

| Year | Dine Ltd % | Dime Ltd % | Market % |
|------|------------|------------|----------|
| 1    | 13         | 13         | 15       |
| 2    | 14         | 14         | 16       |
| 3    | 13         | 10         | 15       |
| 4    | 12         | 11         | 14       |

OR

- (2) (a) what is an investment? What are the constraints of investments? (8)

(b) A security currently sells for Rs 125. It is expected to pay a dividend of Rs. 4.25 and be sold for Rs.140 at the end of the year. The security has a beta of 1.42. The risk free rate in the market is 6% and the expected return on a representative market index is 15%. Assess whether the security is correctly priced. (7)

- (3) A stock costing Rs.120 pays no dividends. The possible prices that the stock might sell for at the end of the year with respective probabilities are: (15)

| Price | Probability |
|-------|-------------|
| 115   | 0.1         |
| 120   | 0.1         |
| 125   | 0.2         |
| 130   | 0.3         |
| 135   | 0.2         |
| 140   | 0.1         |

1. Calculate the expected return.
2. Calculate the standard deviation of returns

OR

- (3) Returns for X and Y under four possible situations are given: (15)

| Situations | Probabilities | Return on X | Return on Y |
|------------|---------------|-------------|-------------|
| 1          | 0.25          | 12%         | 10%         |
| 2          | 0.25          | 15%         | 15%         |
| 3          | 0.25          | 20%         | 5%          |
| 4          | 0.25          | 10%         | 25%         |

Find out: Portfolio risk and return if the portfolio contains stock X and stock Y in equal proportion.

- (4) Mr. Ned Stark purchased the following 5 scrips: (15)

| Co's Name | No of Shares | Purchase price | Dividend | Face Value | Bonus Share | Selling Price |
|-----------|--------------|----------------|----------|------------|-------------|---------------|
| H Ltd     | 150          | 250            | 10%      | 10         | 1:02        | 275           |
| C Ltd     | 200          | 180            | 25%      | 5          |             | 240           |
| S Ltd     | 100          | 80             | 100%     | 10         | 1:05        | 108           |
| F Ltd     | 400          | 240            | 25%      | 10         |             | 200           |
| M Ltd     | 500          | 260            | 400%     | 2          |             | 295           |

Purchase Brokerage paid Rs. 1500

Selling Brokerage: 1900

Calculate the Holding Period Return.

OR

- (4) (a) The actual results of the portfolios and the market index during the past three years are given below: (8)

| Portfolio    | Return on Rp | Portfolio Beta | Risk-free Rate |
|--------------|--------------|----------------|----------------|
| A            | 15%          | 1.2            | 8%             |
| B            | 12%          | 0.8            | 8%             |
| C            | 16%          | 1.5            | 8%             |
| Market Index | 13%          | 1.0            | 8%             |

You are required to rank these portfolios according to Jensen's measure of Portfolio Evaluation.

- (4) (b) Three Mutual Funds have reported the following rates of return and risk over the last five years. (7)

| Growth Fund | Return | Standard Deviation | Beta |
|-------------|--------|--------------------|------|
| HDFC        | 15%    | 15%                | 1.10 |
| ICICI       | 13%    | 16%                | 1.25 |
| UTI         | 12%    | 10%                | 0.90 |

Risk free rate of return is 8%. Evaluate the portfolio performance using Sharp's and Treynor's Index. Which portfolio has performed better?

- (5) (a) Explain the Single Index Model. (8)  
(b) Define risk. Explain the various methods to measure risk. (7)

OR

- (5) Write a short note on (Any three) (15)
- Markowitz theory
  - Constant ratio plan
  - Portfolio Risk
  - Elements of Investment
  - Strong form of efficient market hypothesis