BRAINWARE UNIVERSITY

Course – M.Com.

Security Analysis and Portfolio Management (MCM 304A)

(Semester – 3)

Time allotted: 3 Hours   **Full Marks: 70**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group –A
(Multiple Choice Type Question)

1. Choose the correct alternatives for the following: **10 x 1 = 10**

I.   Which of the following statement is true for capital market line
   a. The slope of the line is (Standard deviation of individual security return/ Standard deviation of market return)
   b. The intercept is market return
   c. The horizontal axis is beta of the security
   d. All of the above

II.   A company has convertible debentures, then the
   a. EPS = Diluted EPS
   b. EPS > Diluted EPS
   c. EPS < Diluted EPS
   d. None

III.   The standard deviation of returns of two securities A and B are 20% and 10% respectively and their expected returns are 30% and 20% respectively. The optimal security is
   a. Security A
   b. Security B
   c. Security A and Security B both
   d. None

IV.   The inputs of Markowitz theory is determined by
   a. Sharpe model
   b. CAPM model
   c. Dow theory
   d. All of the above

V. Which of the following risk is the example of unsystematic risk
    a. Increase in interest rate
    b. Labour problem
    c. Decrease in GDP rate
    d. All of the above

VI. The buying and selling activities of the arbitrageur
    a. Increase in profit
    b. Brings equilibrium level
    c. Creates disequilibrium
    d. Reduce the profit margin

VII. The relation between the return of two securities are determined by
    a. Covariance of return
    b. Standard deviation of return
    c. Mean of the return
    d. None

VIII. Which of the following is the driver of price to sales ratio
    a. Net profit margin
    b. ROE
    c. Growth rate in dividend
    d. None

IX. Which of the following is true for efficient frontier
    a. At a same risk, investors want to maximize return
    b. At a same return, investors want to minimize the risk
    c. None of the above
    d. Both of the above

X. The slope of SML is
    a. Beta
    b. Market return – risk free return
    c. Standard deviation of return
    d. None of the above

Group - B

(Short Answer Type Questions)

Answer any three of the following   **3 x 5 = 15**

2. The share of a certain stock paid a dividend of Rs.3.00 last year. The dividend is expected to grow at a constant rate of 8 percent in the future. The required rate of return on this stock is considered to be 15 percent. How much should this stock sell for now? Assuming that the expected growth rate and required rate of return remain the same, at what price should the stock sell 3 years hence?

3. Differentiate between SML and CML.

4. Describe the significance of Price-Earning ratio and how can we use that for company valuation.

5. You can buy a Rs.100 par value bond carrying an interest rate of 8 percent (payable annually) and maturing after 8 years for Rs.90. If the re-investment rate applicable to the interest receipts from this bond is 10 percent, what will be your yield to maturity?

Group - C
(Long Answer Type Questions)

Answer any three of the following   **3 x 15 = 45**

6. i) A portfolio consists of 4 securities, 1, 2, 3, and 4. The proportions of these securities are: w1=0.3, w2=0.2, w3=0.2, and w4=0.3. The standard deviations of returns on these securities (in percentage terms) are: $\sigma 1=5$, $\sigma 2=6$, $\sigma 3=12$, and $\sigma 4=8$. The correlation coefficients among security returns are: $\rho 12=0.2$, $\rho 13=0.6$, $\rho 14=0.3$, $\rho 23=0.4$, $\rho 24=0.6$, and $\rho 34=0.5$. What is the standard deviation of portfolio return?

   ii) The risk-free return is 8 percent and the return on market portfolio is 16 percent. Stock X's beta is 1.2; its dividends and earnings are expected to grow at the constant rate of 10 percent. If the previous dividend per share of stock X was Rs.3.00, what should be the intrinsic value per share of stock X?

                                                                         (8+7)=15

7. The rate of return on the stock of Omega Electronics and on the market portfolio for 6 periods has been as follows:

Period	Return on the stock of Omega Electronics (%)	Return on the market portfolio (%)
1	18%	15%
2	10%	12%
3	-5%	5%
4	20%	14%
5	9%	-2%
6	18%	16%

   (i) What is the beta of the stock of Omega Electronics?
   (ii) Establish the characteristic line for the stock of Omega Electronics.

8. A zero coupon bond of Rs 100,000 has a term to maturity of six years and a market yield of 8 percent at the time of issue.

(i) What is the issue price?

(ii) What is the duration of the bond?

(iii) What is the modified duration of the bond?

(iv) What will be the percentage change in the price of the bond, if the yield declines by 0.3 percentage points? (30 basis points)

[3+4+4+4=15]

9. Write short notes on

(ii) Convexity of bond

(ii) Security market line

(iii) Decomposition of ROE.

[5x3=15]