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10MBAFM322/BF372

Third Semester MBA. Degree Examination, December 2011
Security Analysis and Portfolio Management

Time: 3 hrs. Max. Marks:100

Note: 1. ***Answer any FOUR full questions, from Q.No.1 to Q.No. 7.***
2. ***Question No. 8 is compulsory.***

1 a. Differentiate between real assets and financial assets. **(03 Marks)**
b. Outline the reasons for the emerging popularity of investment in today's world. **(07 Marks)**
c. Discuss the various factors affecting Indian investors. **(10 Marks)**

2 a. A bond has a face value of Rs 1000. It has a 10% coupon rate and a maturity period of 5 years. What would be the price of the bond, if the yield declines to 8%? **(03 Marks)**
b. Explain the forms of market efficiency. Discuss the tests for various forms of market efficiency. **(07 Marks)**
c. Mr. Ashoka wants to build a portfolio with the following four stocks. The details of the stocks are given below :

Company	Alpha (α)	Beta (β)	Residual Variance (σ_{ei}^2)
A	0.17	0.93	45.15
B	2.48	1.37	132.25
C	1.47	1.73	196.28
D	2.52	1.17	51.98

The market return is 11 percent and the market variance is 26. Calculate the portfolio return and risk. The investment is spread equally over the stocks. **(10 Marks)**

3 a. What is Sensex? **(03 Marks)**
b. How does technical analysis differ from fundamental analysis? What are the various charts used by a technical analyst? **(07 Marks)**
c. Suppose you are asked to analyse two mutual funds having the following characteristics :

	Observed return	Beta	Residual variance
Fund A	18%	2.0	0.03
Fund B	12%	1.5	0.00

The current risk free rate is 7%. The return on market portfolio is 15%. The standard deviation of the market is 6%. Compare these funds on performance using Sharpe, Treynor and Jenson measures. **(10 Marks)**

4 a. A security has a standard deviation of 4%. The correlation coefficient of the security with the market is 0.8 and market standard deviation is 3.5%. The return on risk free securities is 12% and from the market portfolio 16%. What is the required rate of return? **(03 Marks)**
b. Discuss the various bond pricing theorems. **(07 Marks)**

c. After a thorough analysis of both the aggregate stock market and the stock of Zenith Company, you develop the following opinion.

Economic condition	Likely returns		
	Aggregate market	Zenith company	Probability
Good	16%	20%	0.4
Fair	12%	13%	0.4
Poor	3%	-5%	0.2

At present the risk for rate is 7%. Using CAPM, calculate the required rate of return of Zenith. Would an investment in Zenith be wise? **(10 Marks)**

5 a. What is capital market line? **(03 Marks)**

b. Mr. Mahesh owns a portfolio of two securities with the following expected returns, standard deviations and weights.

Security	Expected return	Standard deviation	Weight
X	12%	15%	0.40
Y	15%	20%	0.60

What are the maximum and minimum portfolio standard deviations for varying levels of correlation between two securities? **(07 Marks)**

c. What are formula plans? How is a constant rupee value plan different from a constant ratio plan? Discuss. **(10 Marks)**

6 a. Assume that the risk free rate of return is 7%. The market portfolio has an expected return of 14% and a standard deviation of 25%. Under the equilibrium conditions of CAPM, what would be the expected return for a portfolio having no unsystematic risk and 20% standard deviation of return? **(03 Marks)**

b. Stocks A and B have the following parameters :

	Stock A	Stock B
Expected return	15%	17%
Standard deviation	30%	25%

The correlation between A & B is 0.5. Determine the minimum risk portfolio. **(07 Marks)**

c. The estimates of the standard deviation and correlation coefficients for the stocks are given below :

Stock	Standard deviation	Correlation with stock		
		A	B	C
A	32	1.00	-0.80	0.40
B	26	-0.80	1.00	0.65
C	18	0.40	0.65	1.00

If a portfolio is constructed with 15% of stock A, 50% of stock B and 35% of stock C, what is the portfolio standard deviation? **(10 Marks)**

7 a. What are the functions of an asset management company? **(05 Marks)**

b. Mr. Krishna is constructing a optimum portfolio. The market return forecast says that it would be 13.5% for the next two years, with the market variance of 10%. The riskless rate of return is 5%. The following securities are under review.

Company	α	β	σ_{ei}^2
Anil	3.72	0.99	9.35
Avil	0.60	1.27	5.92
Bow	0.41	0.96	9.79
Viril	-0.22	1.21	5.39
Billy	0.45	0.75	4.52

Find out the optimum portfolio. **(15 Marks)**

8 CASE STUDY (Compulsory)

Madhav Dhar set up Magnum Securities in 1985 as a stock broking firm, which acquired membership of Bombay stock exchange. Till 2010, the bulk of the income of Magnum Securities came from stock broking. Magnum Securities has recently set up a debt division. Madhav Dhar sees a great potential in the debt market.

After graduating from a premier business school, you have worked in a mutual fund organization looking after its debt schemes. Recently Madhav Dhar met you at an investment conference, where, you gave a talk on debt funds.

Mr. Madhav Dhar has requested you to use the following data on Bond A, which is currently one of the most actively traded bonds.

Bond A

Face value	Rs 100
Coupon (interest rate)	15% payable annually
Years to maturity	6 years
Redemption value	Rs 100
Yield to maturity	18 %

a. What is the duration of bond A? **(10 Marks)**
b. Calculate the modified duration. **(03 Marks)**
c. What is the conceptual difference between years to maturity and duration? **(04 Marks)**
d. If the yield on bond A increase by 20 basis points, what will be the percentage change in the bond price? **(03 Marks)**

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