

END TERM EXAMINATION

THIRD SEMESTER [MBA] FEBRUARY 2023

Paper Code: MS-225

Subject: Investment Analysis and Portfolio Management

Time: 3 Hours

Maximum Marks: 75

Note: Attempt any five questions. All questions carry equal marks.

- Q1 You are thinking about investing your money in the stock market. You have the following two stocks in mind: stock A and stock B. You know that the economy can either go into recession or it will boom. Being an optimistic investor, you believe the likelihood of observing an economic boom is two times as high as observing an economic depression. You also know the following about your two stocks:

State of the Economy	Return of stock A	Return of Stock B
RECESSION	6%	40%
BOOM	10%	-2%

- (a) Calculate the expected return for stock A and stock B;
 - (b) Calculate the total risk (variance and standard deviation) for stock A and for stock B;
 - (c) Calculate the expected return on a portfolio consisting of equal proportions in both stocks;
 - (d) Calculate the expected return on a portfolio consisting of 10% invested in stock A and the remainder in stock B;
 - (e) Calculate the covariance between stock A and stock B;
 - (f) Calculate the correlation coefficient between stock A and stock B;
 - (g) Calculate the variance of the portfolio with equal proportions in both stocks using the covariance from answer e;
 - (h) Calculate the variance of the portfolio with equal proportions in both stocks using the portfolio returns and expected portfolio returns from answer c.
- Q2 Answer **any seven** out of the following:-
- (a) Yield curve
 - (b) Leveraged portfolio
 - (c) Minimum risk portfolio
 - (d) Coefficient of determination
 - (e) Heads and shoulders pattern
 - (f) Efficient market hypothesis
 - (g) Security analysis
 - (h) Call money market
 - (i) Ratio analysis
- Q3 Explain the Dows theory in technical analysis. What are its basic tenets and how is it useful for traders?
- Q4 Elaborate on the fundamental analysis technique for stock valuation.
- Q5 (a) Assume that the risk free rate of interest is 3%, the market risk premium is 5%, and that the Betas for Dell and General Mills are 1.2 and 0.8 respectively. What should be the required rate of return for these two stocks?
- (b) What is diversification? Explain the methods of diversification and its benefits.

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- Q6 (a) Assume that stock XYZ is expected to pay a \$1 dividend next year and the investors believe that dividend will grow at 10%. The price per share is currently \$20. What is the expected rate of return? Now let's assume that CAPM says the required rate of return for a stock like XYZ (given its exposure to systematic risk factors) should be 13%. What is the response in the market? What is the new price at the above calculated required rate of return?
- (b) You expect a risk free rate of 10 percent and the market return (R_M) of 14 percent. Compute the expected (required) return for the following stocks, and plot them on an SML graph.

Stock	Actual Return	Beta
U	0.20	0.85
N	0.25	1.25
D	0.034	-0.20

- Q7 (a) Find out which stocks (A to E) are undervalued or overvalued. Give justifications.

Stock	Expected Return(%)	Beta	Standard Deviation
A	33	1.7	0.5
B	13	1.4	0.35
C	26	1.1	0.4
D	12	0.95	0.24
E	21	1.05	0.28
Treasury bills	9	0	0
NIFTY index	13	1.00	0.28

- (b) What is risk? Differentiate between systematic and unsystematic risk. Give examples.

- Q8 (a) Equity shares of ABC Ltd. are currently selling at INR 100. The company is expected to pay a dividend of INR 5 per share with a growth rate of 10%. Compute the cost of equity.
- (b) Mr XYZ received Rs10 lakh from his pension fund. He wants to invest in the stock market. The treasury bill rate is 7% and the market return variance is 20. The following table gives the details regarding the expected return, beta and residual variance of the individual security. What is the optimum portfolio assuming no short sales?

Stock	R_i	Beta	σ_{ei}
A	20	0.75	25
B	18	1.3	16
C	16	1.3	9
D	12	0.75	16
E	10	0.6	9
F	15	1.8	36
