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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Fourth Semester, Master of Business Administration (MBA)

Make-up Examination; July - 2016

Portfolio Management

Time: 3 hrs

Max. Marks: 100

Note: i) Answer any **FOUR** full questions from **PART - A** and **PART - B** (Case Study) is compulsory.
ii) Use of Time Value Tables permitted.

PART - A

- 1 a. Write a detailed note highlighting the basic assumptions of Markowitz Model. 10
- b. The stock of Delta Corporation performs well related to other stocks during recessionary periods. The stock of Gamma Corporation, on the other hand, performs well during the growth periods. Both the stocks are currently trading for ₹ 80. The rupee return (dividend plus capital appreciation) of these stocks for the next year are estimated to be as follows :

Condition	Probability	Returns on Delta	Returns on Gamma
High Growth	0.20	80	140
Low Growth	0.30	90	95
Stagnation	0.40	120	82
Recession	0.10	135	75

10

Calculate the expected return and standard deviation of :

- i) ₹ 1,600 invested in a portfolio of Delta and Gamma in the ratio of 1:1.
- ii) ₹ 1,600 invested in a portfolio of Delta and Gamma in the ratio of 2:3.

OR

- 2 a. Explain the following formula plans in detail : 10
- i) Constant Rupee Value Plan
- ii) Constant Ratio Plan
- iii) Variable Ratio Plan.
- b. An investor holds a portfolio of two shares A and B with expected rates of returns of 18% and 32% respectively. The standard deviations of returns on these stocks are 15% and 24%, with correlation between the rates of returns being 0.72. The value of investments in A and B amount to ₹ 13 lakhs and ₹ 7 lakhs respectively. Compute;
- i) The expected rate of return from the portfolio 10
- ii) The risk measured in terms of standard deviation
- iii) What proportion of investment in both the stocks would have resulted in a zero risk portfolio, if the correlation were to be - 1?

Contd....2

- 3 a. Explain in detail various steps involved in the portfolio management process. 10
- b. The following information pertains to three equity mutual funds. You are required to evaluate their performance based on, i) Sharpe Ratio, ii) Treynor Ratio, and iii) Jensen Measure. The risk free rate of return is 8% per annum. The return on market index was 20% with standard deviation of 15%. 10

Fund	Returns (%)	Beta	Standard Deviation (%)
M	17	1.02	13
N	28	1.50	18
O	14	0.85	10

OR

- 4 a. Explain whether diversification would result in reduction of risk and if so, how in the following cases with respect to a two-share portfolio. 10
- i) The rates of returns are perfectly positively correlated.
- ii) The rates of returns are perfectly negatively correlated.
- b. The following details pertain to an equity portfolio. You are required to decompose the returns based on Fama’s framework and comment on the net selectivity of the portfolio. 10
- Rate of return on the portfolio: 21%
- Standard deviation of the portfolio returns : 15%
- Rate of return on the market index : 16%
- Standard deviation of the returns on market index : 12%
- Risk free rate of return: 10%
- Beta coefficient of the portfolio : 0.85

- 5 a. Explain the concepts of systematic and unsystematic risks by highlighting various factors contributing towards these risks. 10
- b. Explain the various pros and cons of investing in Mutual Funds. 10

OR

- 6 a. A portfolio consists of four securities with the following characteristics,

Security	Weight	Alpha	Beta	Residual Variance
1	0.20	2.00	1.20	320
2	0.30	1.70	0.80	450
3	0.10	-0.80	1.60	270
4	0.40	1.20	1.30	180

Calculate the return and risk of the portfolio under single index model, if the return on market index is 16.40% and the standard deviation of the market returns is 14%. 10

- b. Explain Capital Market Line (CML) and Security Market Line (SML) and the differences between the two. 10
- 7 a. Write a detailed note on various heuristic driven biases in investment decisions. 10
- b. The following table gives an analysts expected returns on two stocks for particular market returns.

Market Return	Stock A	Stock B
5%	2%	8%
25%	30%	20%

- i) What are the beta coefficients of two stocks? 10
- ii) What is the expected rate of return on each stock if the market return is equally likely to be 5% or 25%?
- iii) If the risk free rate is 6% and the market return is equally likely to be 5% or 25%, what is the Security Market Line (SML)?
- iv) What are the alphas of the two stocks?

OR

- 8 a. Explain the salient features of Arbitrage Pricing Theory. 10
- b. Write a detailed note on various active and passive portfolio management strategies applicable to equity portfolio. 10

PART - B

Case Study Compulsory

- 9. The following details pertain to six securities. The risk free rate of return is 8% and the variance of returns on the market index is 486. You are required to construct the optimum portfolio using the following securities, assuming no short sales.

Security	Expected Returns (%)	Beta	Residual Variance
A	28	1.02	56
B	10	0.80	84
C	16	1.02	90
D	36	1.64	46
E	28	1.06	75
F	20	0.65	66

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