LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.A. DEGREE EXAMINATION – **ECONOMICS**

FOURTH SEMESTER – **APRIL 2015**

EC 4813 - PORTFOLIO THEORY AND INVESTMENT ANALYSIS

Date : 20/04/2015   Dept. No. [   ]   Max. : 100 Marks
Time : 09:00-12:00

Section – A

Answer any **Five** questions in about 75 words each.   (5 x 4 = 20 Marks)

1. Write a short note on stock market?

2. What is meant by short selling? Give an example.

3. Distinguish between Forward contract and Future contract.

4. A portfolio consists of two securities, 1 and 2 in the proportions o.6 and 0.4. The SD of the returns on securities 1 and 2 are σ_1 = 10 and σ_2 = 16. The coefficient of correlation between the returns on securities 1 and 2 is 0.5. What is the SD of the portfolio return? Interpret the result in a 2 x 2 matrix.

5. List out the assumptions of Capital Assets Pricing Model?

6. If an investor gets a return of 12% on his investment and the inflation rate is 6.8%, find the real value of return.

7. What is meant by VAR? What are the methods used to measure VAR?

Section – B

Answer any **Four** questions in about 250 words each.   (4 x 10 = 40 Marks)

8. State the purpose of the equity evaluation. List out models of equity evaluation. Find the intrinsic value of Kinely stock from the given data below using dividend discount model.

   Kinley Mineral Water Company is expected to have dividends grow at a rate of 12% for the next three years. In three years, the price of the stock is expected to be Rs.74.46 lakhs. If Kinley just paid a dividend of Rs. 2.00 lakhs and its level of risk requires a discount rate of 10%.

9. Discuss various components of the Indian financial systems.

10. From the give data, Illustrate the Binomial Option Pricing Model using the given information:

    S = 400,   u = 1.5,   d = 0.75   E = 500   r = 125 and R = 1.25

11. Describe Venture Capital by stating its features.

12. (a) From the given data find the value of securities and the total number of runs.

Period	Unit of Securities	Price of each Securities
January 2014	5000	10
February 2014	6500	9
March 2014	4300	8
April 2014	7500	7
May 2014	6200	6
June 2014	5800	5
July 2014	5300	4
August 2014	6000	3

(b) The portfolio consists of 2 securities A and B in the propositions 0.7 and 0.3 respectively. The SD on securities 1 and 2 are σ_A = 15, σ_B = 22. Given the coefficient of correlation between the returns on securities A and B as 0.5, find the SD of the portfolio.

13.   What is meant by financial risk? Make the recommendations to the investors from the given data:

Particulars	Company A			Company B		
	Years			Years		
	2013	2014	2015	2013	2014	2015
Equity Capital Rs. 10 per share	20,00,000	20,00,000	20,00,000	10,00,000	10,00,000	10,00,000
Debt fund (10% interest)	10,00,000	10,00,000	10,00,000	20,00,000	20,00,000	20,00,000
Operating income	3,00,000	4,00,000	2,00,000	3,00,000	4,00,000	2,00,000
Earnings per share	1.0	1.5	0.5	1	2	NIL

14.   From the given data find the arithmetic mean and Variation of company A and B using SD technique, If the A company's return varies from 6% to 10% while the B company's return from 4% to 12%.

Company A		Company B	
(r_i)	(P_i)	(r_i)	(P_i)
6	0.10	4	0.4
7	0.25	6	1.2
8	0.30	8	3.2
9	0.25	10	2.0
10	0.10	12	1.2

Section – C

Answer any **Two** questions in about 750 words each.   (2 x 20 = 40 Marks)

15.   Define Efficient Market Hypothesis (EMH). Discuss the importance and effects of various types of EMH.

16.   (a) Describe the **Block – Scholes Option Pricing Model** by stating its assumptions.

(b) Calculate the value of the call option using B-S formula for the given information:

   a. Price of stock now (S_0) = 80

   b. Exercise Price (E) = 66

   c. Standard deviation of continuously compounded annual returns (σ) = 0.4

   d. Year to maturity (t) = 0.5

   e. Interest rate per annum = 0.20

(c) The daily prices of the Hero auto stock and the NSE index for the period 1stFebruary 2015 to 15thFebruary 2015 are given below. From the given illustration compute the value of beta.

Period	NSE Index (X)	Hero Auto (Y)
1stFebruary 2015	904.95	597.80
2ndFebruary 2015	845.75	570.80
3rdFebruary 2015	874.25	528.95
4thFebruary 2015	847.95	559.85
5thFebruary 2015	849.10	554.60
6thFebruary 2015	835.80	545.10
7thFebruary 2015	816.75	519.15
8thFebruary 2015	843.55	560.70
9thFebruary 2015	835.55	560.95

10thFebruary 2015	839.50	597.40
11thFebruary 2015	852.90	600.65
12thFebruary 2015	887.98	597.56
13thFebruary 2015	902.56	598.90
14thFebruary 2015	894.87	587.65
15thFebruary 2015	885.7	594.42

(d) Find the expected return and risk of the securities and portfolio from the given data. Also justify the concept of diversification's benefit to investors from the result.

State of the Economy	Probability	Return on Security A	Return on Security B	Return on Portfolio
E	0.08	10%	15%	16%
C	0.12	20%	16%	15%
O	0.14	- 5%	10%	10%
N	0.17	15%	-10%	12%
O	0.15	8%	6%	-8%
M	0.13	-10%	5%	9%
I	0.06	12%	-8%	7%
C	0.10	-8%	13%	14%
S	0.05	14%	12%	-6%