2016-18
Investment Management
DM-314/IB-314
Trimester – III, End-Term Examination: March 2017

Time allowed: 2 Hrs 30 Min
Max Marks: 50

Roll No: _____

Instruction: Students are required to write Roll No on every page of the question paper, writing anything except the Roll No will be treated as **Unfair Means**. All other instructions on the reverse of Admit Card should be followed meticulously.

Section A: 15 Marks, Attempt 3 out of 5 questions, questions are of 5 marks each.

QA1. Discuss briefly the characteristics of good financial markets

QA2. Consider the following information for three mutual funds, L, M, and N, and the market.

	Mean return (%)	Standard deviation (%)	Beta
L	15	20	1.6
M	12	11	0.8
N	18	15	1.3
Market index	13	14	1.00

The mean risk-free rate was 8 percent. Calculate the Treynor measure, Sharpe measure, Jensen measure and M^2 for the three mutual funds and the market index and give your comments.

QA3.

Stock	Number of Shares	Price Day T	Price Day T + 1
Q	5,000,000	80	95
R	8,000,000	60	55
S	15,000,000	20	24

If an equal-weighted index is constructed on Day T with $10,000 in each stock, what is the percentage change in wealth for this index on Day T + 1? Assume a base index value of 100 on Day T. What type of index is DJIA and Nifty? Which type do you think is better & why?

QA4. You are considering investing in one of the following bonds:

	Coupon rate	Maturity	Price/Rs.1000 par value
Bond A	12%	7 yrs	Rs. 930
Bond B	8 %	5 yrs	Rs. 860

Your income tax rate is 33 percent and your capital gains tax is effectively 10 percent. Capital gains taxes are paid at the time of maturity on the difference between the purchase price and par value. What is your post-tax yield to maturity from these bonds?

QA5. Discuss briefly the important technical formations on bar & line charts and indications provided by them.

Section B: 20 Marks, Attempt 2 out of 3 questions, questions are of 10 marks each.

QB1. Evaluate comparatively the drifting asset allocation policy, the balanced asset allocation policy and the CPPI (constant proportion portfolio insurance) policy

QB2.

Asset 1	Asset 2
$E(R_1) = .12$	$E(R_2) = .16$
$E(SD_1) = .04$	$E(SD_2) = .06$

Calculate the expected return and expected standard deviation of a two stock portfolio having a correlation coefficient of 0.70 when w_1 is 0.75 and when it is 0.25. Plot the results on return-risk graph. Without calculations, draw in what the curve would look like first if the correlation coefficient had been 0.00 & then if it had been -0.70.

What percentage of stock A should be invested to obtain the minimum risk portfolio that contains stock A and B?

QB3. The following information describes the expected return and risk relationship for the stock of two WAH's competitor.

	Exp. Return	Std. Dev	Beta
Stock X	12	20%	1.3
Stock Y	9	15%	0.7
Market Index	10	12%	1
Risk-free rate	5		

Using the data shown in the preceding table:

a. Draw and label a graph showing the security market line and position stock X and Y relative to it.
b. Compute the alphas both for stock X and Stock Y Show your works.
c. Assume that the risk-free rate increase to 7 percent with the other data in the preceding matrix remaining unchanged. Select the stock providing the higher expected risk-adjusted return and justify your selection. Show your calculations.
d. How is SML different from CML.

Section C: 15 Marks, Compulsory Case Study

Fenix Corporation was set up fifteen years ago. After few years of initial turbulence the Company found a few market segments in which it had some competitive advantage. The financials of the company for the last five years are given below:

Rs. in million

Income Statement Summary	20X1	20X2	20X3	20X4	20X5
Net sales	1200	1320	1400	1510	1630
Profit before interest and tax	180	195	201	220	242
Interest	40	44	47	50	56
Profit before tax	140	151	154	170	186
Tax	40	43	45	50	54
Profit after tax	100	108	109	120	132
Dividends	36	40	40	42	45
Retained earnings	64	68	69	78	87
Balance Sheet Summary					
Equity capital (Rs.10 par)	120	120	120	120	120
Reserves and surplus	600	668	737	815	902
Loan funds	400	445	450	460	505
Capital employed	1120	1233	1307	1395	1527
Net fixed assets	728	863	870	920	982
Investments	100	102	90	104	118
Net current assets	292	268	347	371	427
Total assets	1120	1233	1307	1395	1527
Market price per share (year end)	52	50	55	62	68

The year 20X5 has just ended. The current market price per share is Rs.68. The market price per share at the beginning of 20X1 was Rs.49.

(a) What was the geometric mean return for the past 5 years ?

(b) Calculate the following for the past 2 years : return on equity, book value per share, EPS, PE ratio, market value to book value ratio.

(c) Calculate the CAGR of sales and EPS for the period 20X1 - 20X5.

(d) Calculate the sustainable growth rate based on the average retention ratio and the average return on equity for the past 2 years.

(e) Decompose the ROE for the last two years in terms of five factors.

(f) Estimate the EPS for the next year (20X6) using the following assumptions : (i) Net sales will grow at 10%. (ii) PBIT / Net sales ratio will improve by 0.5% over its 20X5 value. (iii) Interest will increase by 9 percent over its 20X5 value. (iv) Effective tax rate will be 32 percent.

(g) Derive the PE ratio using the constant growth model. For this purpose use the following assumptions: (i) The dividend payout ratio for 20X6 will be equal to the average dividend payout ratio for the period 20X4 - 20X5. (ii) The required rate of return is estimated with the help of the CAPM (Risk-free return = 7%, Market risk premium = 7%, Beta of Fenix Corporations' stock = 0.8). (iii) The expected growth rate in dividends is set equal to the product of the average return on equity and average retention ratio for the previous two years.