## GUJARAT TECHNOLOGICAL UNIVERSITY

MBA - SEMESTER-III • EXAMINATION - SUMMER 2013

Subject Code: 2830203 Date: 03-06-2013

Subject Name: Security Analysis and Portfolio Management

Time: 14:30 pm – 17:30 pm Total Marks: 70

**Instructions:** 

1. Attempt all questions.

2. Make suitable assumptions wherever necessary.

3. Figures to the right indicate full marks.

Q.1 (a) The returns of two assets under four possible states of nature are given below.

		Return	on	Return	on
Situation	Probability	Asset 1		Asset 2	
1	0.2	-5%		10%	
2	0.3	15%		12%	
3	0.4	18%		14%	
4	0.1	22%		18%	

i. What is the standard deviation of the return on asset 1 and on asset 2?

ii. What is the covariance and correlation coefficient between the return on asset 1 and asset 2?

- (b) "The stock market is thronged by investors pursuing diverse investment 07 approaches "in the light of the above statement explain the different approaches for investment decision making.
- Q.2 (a) The current dividend on an equity share of NC Ltd is Rs.5.The present growth rate is 50%. However, this will decline linearly over a period of 8 years and then stabilise at 10%. What is the intrinsic value of share of NC Ltd, if investor requires a return of 18% from its stock.
  - (b) What do you understand by efficient market hypothesis? Briefly explain its 07 different forms of efficiency.

OR

- (b) Explain what do you understand by Industry Life Cycle? Briefly discuss its **07** different phases with their important features.
- Q.3 (a) Explain what do you understand by momentum indicators in Technical Analysis. 07 Explain any three of such indicators in details.
  - (b) i.A particular stock has the variance of its return as 225 and its beta is 0.75. If the variance of the market return is 144, then you are requested to find the percentage of the stock return not explained by the market index.
    - ii. If the market is providing a return of 14% and T bill are yielding 6% then according to CAPM which of the following securities are overvalued or undervalued.

		Expected
Security	Beta	Return
A	1.4	18.2
В	1.2	15.6
С	1.5	19.4
D	1.1	14

OR

Q.3 (a) Consider the following information

Investor | Investment Objective

A Earn a return and can assume the relevant risk

B can assume a risk upto a variance in return of 250

**07** 

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Further it is gathered that

Risk free rate = 7%, Return on market portfolio = 15% standard deviation in the return on market portfolio = 20%.

Using separation theorem you are required to find

- i.Risk level of portfolio constructed by investor A
- ii. Expected level of return earned by the portfolio constructed by investor B.
- (b) "The Arbitrage Pricing Theory can be used to identify mispriced securities" **07** Explain the statement in detail.
- Q.4 (a) Consider the following table which gives a security analyst's expected return on 07 two stocks

Market	Aggressive	Defensive
Returns	Stocks	Stocks
5%	-2%	6%
25%	38%	12%

- i. What are the betas of these two stocks.
- **ii.** What is the expected return of each stock if the market return is equally likely to be 5% or 25%?
- iii. What are the alphas of these two stocks?
- (b) i Explain what do you understand by YTM and YTC of a bond.
  ii.Explain what do you understand by Yield curve and Convexity of a bond?

## OR

- Q.4 (a) An insurance company has an obligation to pay Rs.215900 after 10 years .The market interest rate is 8%, so the present value of obligation is Rs.100000.The insurance company's manager wants to fund the obligation with a mix of 6 years zero coupon bond and perpetuities paying annual coupons. In what proportion should he buy these debt instruments.
- **Q.4** (b) What do you understand by immunization and modified duration related to a **07** Bond? Explain the different properties of duration.
- Q.5 (a) Consider the following data for Government securities.

Ī	Face	Interest rate	Maturity	
	Value	(%)	Yrs	Current Price
	100000	0	1	91000
	100000	10.5	2	99000
	100000	11	3	99500
	100000	11.5	4	99900

Calculate the forward rates.

**(b)** What do you understand by Portfolio Revision? Explain in this context the **07** Portfolio Rebalancing and Portfolio Upgrading process.

## OR

- Q.5 (a) Write short notes on the following and their implications.i. Sharpe Ratio ii. Treynor Ratio iii. Jensen Measure iv.Net Selectivity
  - (b) Suppose that there are two independent economic factor F1 and F2. The risk free orate is 6% and all the stocks have independent firm specific components with a standard deviation of 45% The following are well diversified portfolio.

	Beta on	Beta on	Expected
Portfolio	F1	F2	Return
A	1.5	2	31%
В	2.2	-0.2	27%

What is the expected return – beta relationship in this economy?

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