## Enrolment No.\_\_\_\_\_

# GUJARAT TECHNOLOGICAL UNIVERSITY MBA – SEMESTER 3 – EXAMINATION – SUMMER 2016

| Subject     | Code: 28   | 830203                 |                           |     | Date: 09/05/2                       | 2016  |  |
|-------------|------------|------------------------|---------------------------|-----|-------------------------------------|-------|--|
| Subject 2   | Name: S    | ecurity Analysi        | s and Por                 | tf  | olio Management                     |       |  |
| Time:10     | .30 AM     | TO 01.30 PM            |                           |     | Total Mark                          | s: 70 |  |
| Instruction | ns:        |                        |                           |     |                                     |       |  |
| 1.          | Attempt    | all questions.         | 1                         | _   |                                     |       |  |
| 2.<br>3     | Figures to | table assumptions w    | nerever nec<br>full marks | es  | sary.                               |       |  |
| 5.          | Figures    | o the right multate i  | un marks.                 |     |                                     |       |  |
| Q1          | Ans        | wer the following n    | nultiple choi             | ce  | e questions:                        | 06    |  |
|             | Whi        | ch of the following    | terms repre               | se  | nt an upper price limit for a stock |       |  |
|             | base       | d on the quantity of   | f the willing             | Se  | eller?                              |       |  |
| 1.          | A.         | Support                | B.                        | •   | Trend line                          |       |  |
|             | C.         | Resistance             | D                         | •   | Channel                             |       |  |
|             | A m        | ain difference betw    | een real and              | l n | ominal return proceeds is that,     |       |  |
|             | A.         | A real return adjus    | st for B.                 | •   | Real return use actual cash         |       |  |
|             |            | inflation and nomi     | inal                      |     | flows and nominal use expected      |       |  |
| 2.          | G          | return do not          | 6 D                       |     | cash flows                          |       |  |
|             | C.         | Real return adjust     | for D Rea                 |     | Real returns show highest           |       |  |
|             |            | commissions and        |                           |     | possible return and nominal         |       |  |
|             |            | nominal returns do     | ) not                     |     | show lowest possible return         |       |  |
|             | Non        | -systematic risk is f  | further more              | ic  | lentified as                        |       |  |
| 3.          | A.         | No diversifiable ri    | sk B.                     | •   | Market risk                         |       |  |
|             | C.         | Random risk            | D                         | •   | Company specific risk               |       |  |
|             | Sup        | pose you have 20 st    | ocks and yo               | u   | want to derive efficient frontier,  |       |  |
|             | how        | many co-variances      | do you hav                | e   | to calculate?                       |       |  |
| 4.          | A.         | 90                     | B                         |     | 190                                 |       |  |
|             | C.         | 20                     | D                         | •   | 400                                 |       |  |
|             | Mr 2       | X is just retired as a | governmen                 | t c | officer. Which investment would     |       |  |
|             | grad       | le upper most with i   | regard to pro             | ote | ection is,                          |       |  |
| 5.          | Ă.         | Preferred stock        | B                         |     | Real estate                         |       |  |
|             | C.         | Common stock           | D                         | •   | Government bonds                    |       |  |
|             | Con        | sider two stock in n   | ortfolio A a              | nc  | B                                   |       |  |
|             |            |                        |                           |     |                                     |       |  |
|             |            |                        | E (R)                     |     | S.D.                                |       |  |
|             | Α          |                        | 15%                       |     | 10%                                 |       |  |
|             | В          |                        | 20%                       |     | 30%                                 |       |  |

If the returns of the two stocks perfectly negatively correlated what is the weightage of two stocks that risk of portfolio driven down to zero?

- 6. A. 75% and 25%
- B. 60% and 40%
- C. 80% and 20%
- b. 60% and 40%c. 66.67% and 33.33%
- Q.1 (b) Explain the meaning of the following terms:

- 1. Circuit breaker
- 2. Anchoring
- 3. Short sell
- 4. Regret aversion
- Q.1 (c) Write a note of IPO investments.
- Q.2 (a) Define investments. Discuss the various marketable and non-marketable 07 investment avenues available to investors.
  - (b) What do you mean by efficient market hypothesis? Also explain the **07** forms of market efficiency.

## OR

(b) A highly volatile stock earns the following returns over six year periods 07  $R_1=10\%$ ,  $R_2=30\%$ ,  $R_3=15\%$ ,  $R_4=-0.12$ ,  $R_5=35\%$ ,  $R_6=12\%$ 

Calculate and interpret the following values:

- 1. Arithmetic mean
- 2. Cumulative wealth index
- 3. Standard deviation
- Q.3 (a) What are the basic assumption and inputs required for CAPM? Explain 07 CML and SML. Also establish intra-relation between them.
  - (b) The earning of a company has been growing at 15% over the past several vears and is expected to increase at this rate for next seven years and thereafter at 9% in perpetuity it is currently earning Rs 4 per share and paying Rs 2 per dividend. What shall be present value of share with discount rate of 12% for the first seven years and 10% thereafter?

#### OR

- Q.3 (a) Select an industry of your choice and do the industry analysis in the 07 current economic scenario.
  - (b) The following table gives analyst expected return on two stocks for **07** particular market:

| Market return | Aggressive stock | Defensive stock |
|---------------|------------------|-----------------|
| 8%            | 3%               | 10%             |
| 25%           | 40%              | 20%             |

- 1. What are the betas of the stocks?
- 2. What is the expected return on each stock if market return is equally likely to be 8% and 25%?
- 3. If the risk free rate is 9% and market return is equally likely to be 8% or 25%, what is SML?
- 4. What is the alpha of two stocks?

## Q.4 (a) Write a note on the following:

- 1. Technical analysis
- 2. Dow theory and components
- (b) The rates of return on stock X and market portfolio for last 12 07 months are given below:

07

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| -      |    |    |    |    |    |    |    |   |    |    |    |    |
|--------|----|----|----|----|----|----|----|---|----|----|----|----|
| Month  | 1  | 2  | 3  | 4  | 5  | 6  | 7  | 8 | 9  | 10 | 11 | 12 |
| Return | 13 | 17 | 24 | 15 | 14 | 18 | 16 | 6 | 10 | 13 | 14 | 20 |
| on     |    |    |    |    |    |    |    |   |    |    |    |    |
| stock  |    |    |    |    |    |    |    |   |    |    |    |    |
| (%)    |    |    |    |    |    |    |    |   |    |    |    |    |
| Return | 14 | 13 | 12 | 7  | 9  | 15 | 18 | 7 | 3  | 16 | 8  | 10 |
| on     |    |    |    |    |    |    |    |   |    |    |    |    |
| market |    |    |    |    |    |    |    |   |    |    |    |    |
| (%)    |    |    |    |    |    |    |    |   |    |    |    |    |
| 1 0 1  | 4  |    |    |    | 1  |    |    |   |    |    |    |    |

1. Calculate and interpret the beta stock -X.

2. What is characteristic line for stock - X?

## OR

- Q.4 (a) Write a note on the following:
  - 1. Single index model

2. Arbitrage pricing theory

(b) Calculate the systematic and unsystematic risks for the given securities 07 from the following data.

|                         | Average<br>Return (%) | Standard deviation | Beta |
|-------------------------|-----------------------|--------------------|------|
| Tata power              | 33.90                 | 126.34             | 0.36 |
| Mahindra &<br>Mahindra  | 25.09                 | 106.70             | 0.74 |
| Market index<br>(Nifty) | 28.63                 | 39.52              | 1    |
| Correlation coefficient | 0.90                  |                    |      |
| r <sup>2</sup>          | 0.81                  |                    |      |

Q.5

Mr. X has recently completed MBA Finance from GTU as major in finance and he has been hired as a financial planner by a leading financial corporation. His boss has assigned him the task of investing Rs 10,00,000 for a client who has been asked to consider only the following investment alternatives, Stock A and Stock B.

The research wing of the company has developed the probability distribution for the state of the economy and estimated value of rate of return under each state of economy. The following information is available for your research purpose:

| State of | Probability | Stock A | Stock B |
|----------|-------------|---------|---------|
| Economy  |             |         |         |
| 1        | 0.20        | 5       | 20      |
| 2        | 0.30        | 15      | 14      |
| 3        | 0.40        | 18      | 35      |
| 4        | 0.10        | 02      | 10      |

1. What are expected returns and standard deviations of returns for stock A and B? What is your recommendation of client in terms of variability for the two stocks? Which stock is more consistent? Justify your answers.

07

2. If correlation coefficient of two stocks is 0.80 and investor wants to invest 40% in stock A and remaining in stock B, what is the expected return and risk of the portfolio of the two stocks?

## OR

Q.5 Consider the following information for three mutual funds, X, Y and Z 14 and the market.

|              | Mean return | S.D. | Beta |
|--------------|-------------|------|------|
| Х            | 15%         | 20%  | 0.90 |
| Y            | 17%         | 24%  | 1.10 |
| Ζ            | 19%         | 27%  | 1.20 |
| Market index | 16          | 20   | 1.00 |

The mean risk free rate was 10%.

- 1 Calculate the Treynor measure, Sharpe measure and Jensen measure for the three mutual funds and the market index.
- 2 Explain the real life application of the Treynor measure, Sharpe measure and Jensen measure with reference to the above question.

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