Sample Exam I
(Note: the objective of this sample exam is to show the format of the questions in the exam, this sample is not a full length exam.)

Part I. Short answer questions (5 questions, 50 points total)

1. (10 points) Please provide the following details on the stock you are following this semester:
a. Name and ticker symbol
b. Industry
c. Current price level
d. Any major corporate events that significantly affected the stock price in the past year?

2. (10 points) suppose that you sell short 100 shares of IBM, currently selling for $80 per share, and give you broker $10,000 to establish your margin account. Assuming IBM does not pay dividend and you earn no interest on the funds in your margin account.
a. What is the return of *your investment* if after one year IBM stock is selling at $72?
b. Compare the stock's return with the return of your investment, why are they different?

3. (10 points) Are the following statements true or false? Briefly Explain.
   a) Assume expected returns and standard deviations for all securities, as well as the risk free rate for lending and borrowing are known. All investors arrive at the same optimal risky portfolio.
   b) The risk (standard deviation) of a portfolio is the weighted average of the risks of the component assets in the portfolio.

Part II Comprehensive Questions (50 points total)
Show all work. If you get stuck on one part, either make assumptions that allow you to answer the remaining parts, or carry on even if you think your answers are incorrect.

1. Portfolio Theory (30 points)

Your client is considering three mutual funds: a stock fund, a corporate bond fund and a T-bill money market fund. The sure return of the T-bill fund is 7%. The expected return and standard deviation for the stock fund and the corporate bond fund are given in the following table. The correlation between the stock fund and the bond fund returns is 0.15

Risky Assets	Expected Return	Standard Deviation
Stock Fund (S)	22%	30%
Bond Fund (B)	12%	20%

(a) Your client is only considering the stock fund for his investment portfolio because it has higher expected return. Offer him an intuitive explanation on whether this investment strategy is appropriate or not. Note that the stock fund is already a diversified portfolio. (5 points)

(b) Compute the expected return and risk (standard deviation) for a portfolio that invests 80% in the stock fund and 20% in the bond fund. (5 points)

(c) Show why your client should be interested in this risky portfolio constructed in (b) as compared to an investment in the stock fund alone. (5 points) (Hint: use reward-to-variability ratio $[E(r_i)- (r_f)]/\sigma_i$ to explain)