

FINA 220 Spring 2004 - 2005
Mid-Term Examination (Version 1)

Name

Fadi Kerbay

Student No.

200202959



Multiple Choice: $1:5 \times 8 = 12$

Essay 1: -3

Essay 2: -3.5

Final Exam: -7

74.5

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

- 1) The risk-free rate of return is 4% while the market rate of return is 11%. Delta Company has a historical beta of 1.25. Today, the beta for Delta Company was adjusted to reflect internal changes in the structure of the company. The new beta is 1.38. What is the amount of the change in the expected rate of return for Delta Company based on this revision to beta?

A) 0.4%

B) 9.7%

☒ C) 0.9%

D) 13.7%

1) C

- 2) Over the long term, which one of the following has historically had the highest average annual rate of return?

☒ A) small-company stocks

B) long-term corporate bonds

C) long-term government bonds

D) large-company stocks

2) A

- 3) The Jennings Company has 4 million shares of stock outstanding. The stock has a par value of \$0.10 per share and is currently trading at \$18 per share. According to this information, the market capitalization of Jennings is

A) \$400,000.

B) \$7.2 million.

☒ C) \$72 million.

D) \$40 million.

3) C

- 4) A firm has earnings before taxes of \$128 million and taxes of \$39 million. The company pays \$12 million in preferred dividends and \$31 million in common dividends. There are 24 million shares of common stock outstanding. What is the amount of the earnings per share?

☒ A) \$3.21

B) \$3.71

C) \$3.83

D) \$1.92

4) A

- 5) Traditional portfolio management

☒ A) is based on statistical measures to develop the portfolio plan.

B) concentrates on only the most recent "hot" sectors of the market.

C) includes only diversified bonds in a laddered portfolio.

☒ D) typically centers on interindustry diversification.

5) D

- 6) The Limberger Corporation declared a quarterly dividend of \$0.10 per share. The ex-dividend date was July 15, the date of record was July 18, and the payment date was July 28. If you had owned 100 shares of the Limberger Corporation and sold them on July 15, then

A) neither you nor the purchaser would collect any money in dividends.

B) you would collect \$5.00 in dividends, and the purchaser would collect \$5.00 in dividends.

☒ C) the purchaser would collect \$10.00 in dividends, and you would not collect any dividends.

D) you would collect \$10.00 in dividends, and the purchaser would not collect any dividends.

6) C

- 7) Holding securities in street name

A) means that the brokerage firm actually owns the securities.

B) allows the brokerage firm to sell securities without the customers approval.

☒ C) makes the trading of securities easier and more efficient for individual investors.

D) enables the brokerage firm to collect the stock dividends as compensation for their services.

7) C



8) Systematic risks

- ☒ A) result from random firm-specific events.
- ☐ B) are unique to certain investment vehicles.
- ☐ C) can be eliminated by investing in a variety of economic sectors.
- ☐ D) are forces that affect all investment categories.

9) Angela placed a stop-limit order to sell 100 shares of RST stock at \$28 when the market price of RST was \$31. Shortly after Angela placed her order, trading on RST was halted due to a pending news announcement. When trading re-opens RST is priced at \$24 a share. Within minutes the price of RST began to drop further until it reached \$19 a share. Which one of the following statements is correct concerning Angela's stop-limit order to sell?

- ☒ A) Angela still owns her 100 shares of stock.
- ☐ B) Angela's stock was sold for \$24 a share.
- ☒ C) Angela's stock was sold at a price between \$19 and \$24 a share.
- ☐ D) Angela's stock was sold for \$28 a share.

Stop-limit
→ stop

10) When the cost of an investment exceeds the present value of its benefits, the investor would be earning a rate of return

- ☐ A) equal to the compounded rate.
- ☐ B) greater than the discount rate.
- ☐ C) equal to the discount rate.
- ☒ D) less than the discount rate.

11) A rights offering is the

- ☐ A) initial offering of securities to the public.
- ☐ B) sale of newly issued shares of stock to the general public.
- ☐ C) sale of securities directly to a select group of investors.
- ☒ D) offering of new securities to current shareholders on a pro-rata basis.

12) Peg bought a stock at a price of \$23. She received a \$1.50 dividend and sold the stock for \$25. What is Peg's capital gain on this investment?

- ☐ A) \$1.50
- ☐ B) \$3.50
- ☐ C) \$0.50
- ☒ D) \$2.00

13) The risk of a portfolio consisting of two uncorrelated assets will be

- ☐ A) greater than the risk of the least risky asset but less than the risk level of the more risky asset.
- ☐ B) equal to the average of the risk level of the two assets.
- ☒ C) greater than zero but less than the risk of the more risky asset.
- ☐ D) equal to zero.

14) Courtney purchased 100 shares of stock at \$38 using her 70% margin account. Her maintenance margin is 40%. Courtney has no other securities in her account. At what price will Courtney receive a margin call?

- ☐ A) \$7.60
- ☐ B) \$11.40
- ☐ C) \$26.60
- ☒ D) \$19.00

15) Beta is the slope of the best fit line for the points with coordinates representing the _____ and the _____ for each one of several years.

- ☐ A) market rate of return; security's rate of return
- ☒ B) rate of return; level of risk for an individual security
- ☐ C) rate of inflation; rate of return for an individual security
- ☒ D) risk level of a stock; market rate of return

- 16) Which of the following statements about the Dow Jones Industrial Average are correct?
- I. Higher-priced stocks tend to affect the average more than lower-priced stocks. ✓
 - II. A one-point change in the DJIA correlates to a \$1 change in average share value. ✓
 - III. Changes in the DJIA are made to reflect company mergers and acquisitions. ✓
 - IV. The DJIA divisor was determined when the average was created and remains constant.

A) I, III and IV only

B) II and IV only

C) I, II, III and IV

D) I and III only

16) D

- 17) Averages and indexes differ from one another in that an index

A) measures the current price behavior of a group of stocks in relation to a base value set at an earlier point in time. ✓

B) is of value in-and-of itself, whereas an average must be compared to a historical figure to have any meaning.

C) is the arithmetic average price behavior of a group of stocks at a given point in time.

D) always moves up before a corresponding average moves up, and always moves down before a corresponding average moves down.

17) A

- 18) Rob owns 300 shares of Blackwood common stock valued at \$9 a share. Blackwood has declared a 3-for-1 stock split effective tomorrow. After the split, Rob will own

A) 100 shares valued at \$3 a share.

B) 900 shares valued at \$3 a share.

C) 100 shares valued at \$27 a share.

D) 900 shares valued at \$27 a share.

18) B

- 19) In a rights offering, the

A) amount of debt in the capital structure increases by the amount of the rights offering.

B) total equity remains constant while the number of shares of common stock outstanding increases. ✓

C) underwriter offers the investing public a certain number of shares at a certain price.

D) existing stockholders are given the first opportunity to purchase new shares in proportion to their current ownership position.

19) D

- 20) To determine the compounded annual rate of return on investments held for more than a year, investors typically use the present-value-based measure known as yield or

A) simple return.

B) inflation-adjusted return.

C) holding period return.

D) internal rate of return.

20) D

- 21) If the present value of an investment's benefits equals the present value of the investment's costs, then the investor would earn a

A) return greater than the discount rate.

B) return equal to the discount rate.

C) negative rate of return.

D) 0% rate of return.

21) B

- 22) Roy is going to receive a payment of \$5,000 one year from today. He earns an average of 6% on his investments. What is the present value of this payment?

A) \$5,300

B) \$4,717

C) \$4,821

D) \$5,000

22) B

- 23) Stacy owns the following portfolio of stocks. What is the return on her portfolio?

Stock	Amount Invested	Return on Stock
A	\$4,000	7.5%
B	\$2,000	11.0%
C	\$6,000	9.3%

A) 9.0%

B) 8.6%

C) 9.4%

D) 9.3%

- 24) Investment bankers who join together to share the financial risk associated with buying an entire issue of new securities and reselling them to the public is called a(n)
- A) primary market group.
B) underwriting syndicate.
C) tombstone group.
D) selling group.

- 25) The best stock to own when the stock market is at a peak and is expected to decline in value is one with a beta of
- A) -1.0.
B) +1.5.
C) +1.0.
D) -0.5.

- 26) Which of the following statements about the Security Market Line are correct?
- I. The intercept point is the market rate of return.
II. The slope of the line is beta.
III. An investor should accept any return located above the SML line.
IV. A beta of 0.0 indicates the risk-free rate of return.

A) III and IV only

B) I, II, and IV only

B) II, III and IV only

D) I and II only

- 27) In designing a portfolio, the only relevant risk is

A) nondiversifiable risk.

C) unsystematic risk.

B) event risk.

D) total risk.

- 28) A portfolio with a beta of 1.06

A) is 106% more risky than the overall market.

B) is slightly more risky than the overall market.

C) has less risk than the lowest risk security held within that portfolio.

D) is 6% more risky than a risk-free asset.

- 29) Robin purchased a stock at a price of \$18 a share. She received quarterly dividends of \$0.50 per share. After one year, Robin sold the stock at a price of \$19.50 a share. What is her percentage total return on this investment?

A) 11.1%

B) 19.4%

C) 17.9%

D) 10.3%

- 30) Gerry bought 100 shares of stock for \$30.00 per share on 70% margin. Assume Gerry holds the stock for one year and that his interest costs will be \$90 over the holding period. Gerry also received dividends amounting to \$0.60 per share. Ignoring commissions, what is his percentage return on invested capital if he sells the stock for \$34 a share?

A) 21.9%

B) 13.3%

C) 17.6%

D) 60.0%

- 31) The date on which an investor must be a registered shareholder of the firm in order to receive a dividend is called the

A) ex-dividend date.

C) payment date.

B) purchase date.

D) date of record.

- 32) A stock's beta value is a measure of
☒ A) diversifiable risk.
☒ C) systematic risk.
☐ B) total risk.
☒ D) interest rate risk. 32) F
- 33) An investment produced annual rates of return of 4%, 8%, 14% and 6%, respectively, over the past four years. What is the standard deviation of these returns?
☐ A) 4.3% ☐ B) 4.6% ☒ C) 4.1% ☐ D) 3.7% 33) C
- 34) The required rate of return on the Daisy Corporation's common stock is 11%, the current real rate of return in the market is 1%, and the market's risk-free rate of return is 4%. In this case, the risk premium associated with Daisy's stock is
☐ A) 8%. ☐ B) 6%. ☐ C) 5%. ☒ D) 7%. 34) D
- 35) The Capital Asset Pricing Model (CAPM) is a mathematical model that depicts the
☐ A) positive relationship between risk and return.
☐ B) standard deviation between a risk premium and an investment's expected return.
☐ C) difference between a risk-free return and the expected rate of inflation.
☐ D) exact price that an investor should be willing to pay for any given investment. 35) A
- 36) The market rate of return increased by 8% while the rate of return on XYZ stock increased by 4%. The beta of XYZ stock is
☐ A) 2.0. ☐ B) -0.40. ☒ C) 0.50. ☐ D) -2.0. 36) C
- 37) Angie places an order to buy 250 shares of stock. This is an order for
☐ A) two hundred round lots and fifty odd lots.
☐ B) two odd lots and one round lot.
☒ C) two round lots and one odd lot.
☐ D) five round lots. 37) C
- 38) The markets in general are paying a 2% real rate of return. Inflation is expected to be 3%. ABC stock commands a 6% risk premium. What is the risk-free rate of return?
☒ A) 5% ☐ B) 2% ☐ C) 8% ☐ D) 11% 38) A
- 39) The beta of the market is
☐ A) 0.0. ☒ B) 1.0. ☐ C) -1.0. ☐ D) undefined. 39) B
- 40) Which of the following statements about the coefficient of variation (CV) are correct?
 I. The CV is a measure of relative dispersion.
 II. The CV is useful in comparing the risk of assets with differing average or expected returns.
 III. The CV is calculated by dividing the standard deviation by the average or expected return.
 IV. The higher the CV of an investment, the lower its risk.
☐ A) I, II and III only ☒ B) II and III only
☐ C) I and IV only ☐ D) I, III and IV only 40) B
- 41) The efficient frontier
☒ A) includes all feasible sets of portfolios based on risk and return characteristics.
☐ B) provides the highest level of risk for the lowest level of return.
☒ C) represents the best attainable tradeoff between risk and return.
☐ D) is represented by the rightmost boundary of the feasible set of portfolios. 41) C

- 42) The following data has been gathered concerning a particular investment and conditions in the market. 42) C

Risk-free rate	4.5%
Market return	11.0%
Beta of investment	1.35

According to the Capital Asset Pricing Model, the required return for this investment is

- A) 8.8%. B) 12.9%. C) 14.9%. D) 13.3%.
- 43) Most investors are risk-averse, which means they 43) D
- A) refuse to accept any financial risk.
B) gain satisfaction from the excitement of risk.
C) invest only in government insured securities.
D) require an increase in return for any increase in risk.

- 44) The value that investors place on a stock is called its 44) B
- A) par value. B) investment value.
C) book value. D) liquidation value.

- 45) The common shares of the Owl Company have a book value of \$10.80 and a market value of \$14.30. The company pays \$0.14 in dividends each quarter. What is the dividend yield? 45) C
- A) 5.2% B) 1.0% C) 1.3% D) 3.9%

3.0

PROBLEM AND ESSAYS. (Answer the following question within the allocated space)

1) Identify and discuss five sources of risks that face investors. (7.5 points)

Indos

The 5 sources of risk are. Business Risk, ~~Industry~~ Industry Risk, Market Risk and Event Risk.
Sector

Diversifiable to a certain extent.

Business risk is a diversifiable form of risk, directly related to the company at hand, e.g. risk associated with buying stocks, or corrupt management.

Industry risk is a risk that can be diversified that is related to all firms in a certain industry. e.g. all sales drop in winter due to less demand and increase in sector?

Market risk is the risk involved with investing in a sector of the market, this risk is also diversified. e.g. The tech sector plunged mostly during the crash of 2000, all other sectors were affected but not to the extent of the tech sector.

What about interest rate risk? market risk? liquidity risk? financial risk?

Market Risk is non diversifiable risk except with stock negative correlation. it is the risk involved with the whole market, that is also related interest rates and inflation.

Event Risk is the risk that comes with a certain event taking place, the most obvious historical event risk is the sept. 11 bombing of the WTC which shook the world markets.

This is actually a Portfolio risk. It is diversifiable.

-3.5

- 2) Explain the "Separation Theorem" and discuss the reason behind its theoretical importance. (7.5 points)

The separation theorem, is the theorem used to find the optimum portfolio, that which is the maximum return for the minimum risk.

It's theoretical importance lies in the fact that even though the optimum portfolio is virtually impossible to achieve the best ~~possible~~ possible portfolio under normal circumstances, with the hope of reaching the efficient frontier, where one can find the best trade off between risk and return.

given from

This is regardless of one's risk preferences. up to

(-7)

3) Given a portfolio consisting of 100 share of stock A and 200 shares of stock B having the following attributes: (15 points)

- Price of stock A: \$50
- Price of stock B: \$35
- Expected return on stock A: 10%
- Expected return on stock B: 12%
- Standard deviation of return on Stock A: 2%
- Standard deviation of return on stock B: 5%
- Correlation between returns of both stock: 0.8

a. Derive the portfolio expected return.

b. Derive the standard deviation of portfolio returns

c. Assuming that:

- Correlation between returns on stock A and market returns is 1.6
- Correlation between returns on stock B and market returns is 1.1
- Standard deviation of market returns is 1%

- i. Calculate the Beta of stock A
- ii. Calculate the Beta of stock B
- iii. Calculate the Beta of the whole portfolio

$$a) \text{ Return on portfolio} = (w_1 r_1) + (w_2 r_2)$$

$$w_1 = (100 \times 50) / ((100 \times 50) + (200 \times 35)) \quad w_2 = 7000 / 12000$$

$$= 5000 / 12000$$

$$\Rightarrow w_1 = 41.67\%$$

$$w_2 = 58.33\%$$

$$\Rightarrow \text{return} = (0.4167 \times 10) + (0.5833 \times 12)$$

$$= 4.167 + 7$$

$$\text{return on portfolio} = 11.167\%$$

b) SD of portfolio = $[(w_1\sigma_1)^2 + (w_2\sigma_2)^2 + 2(w_1w_2)(\sigma_1\sigma_2\rho_{12})]$

= $[(0.417 \times 2)^2 + (0.583 \times 5)^2 + 2(0.417 \times 0.583 \times 2 \times 5 \times 0.6)]^{1/2}$

= $[0.696 + 8.497 + 1.6(2.43)]^{1/2}$

= $[13.081]^{1/2}$

standard deviation of portfolio = 3.61677.

c) i) $\beta_A = \frac{\text{Cov}_{A,M}}{(\sigma_M)^2}$

$\text{Cov}_{A,M} = \int_{A,M} \sigma_A \sigma_M$

$\beta_A = \rho_{A,M} \frac{\sigma_A \sigma_M}{(\sigma_M)^2} \Rightarrow \beta_A = 3.2$

ii) $\beta_B = \int_{B,M} \frac{\sigma_B \sigma_M}{\sigma_M^2} = 5.5$

iii)

$\beta_P = w_A \beta_A + w_B \beta_B$

$\beta_P = 4.54$