**Portfolio Mgt 2 Exam I**

1. Consider a single factor APT. Portfolio A has a beta of 1.0 and an expected return of 16%. Portfolio B has a beta of 0.8 and an expected return of 12%. The risk-free rate of return is 6%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_and a long position in portfolio \_\_\_\_\_\_\_.   
A. A, A  
B. A, B  
C. B, A  
D. B, B  
E. A, the riskless asset

2. Consider the one-factor APT. The variance of returns on the factor portfolio is 6%. The beta of a well-diversified portfolio on the factor is 1.1. The variance of returns on the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_\_.   
A. 3.6%  
B. 6.0%  
C. 7.3%  
D. 10.1%  
E. none of the above

3. Consider the multifactor model APT with two factors. Portfolio A has a beta of 0.75 on factor 1 and a beta of 1.25 on factor 2. The risk premiums on the factor 1 and factor 2 portfolios are 1% and 7%, respectively. The risk-free rate of return is 7%. The expected return on portfolio A is \_\_\_\_\_\_\_\_\_\_if no arbitrage opportunities exist.   
A. 13.5%  
B. 15.0%  
C. 16.5%  
D. 23.0%  
E. none of the above

4. Consider a one-factor economy. Portfolio A has a beta of 1.0 on the factor and portfolio B has a beta of 2.0 on the factor. The expected returns on portfolios A and B are 11% and 17%, respectively. Assume that the risk-free rate is 6% and that arbitrage opportunities exist. Suppose you invested $100,000 in the risk-free asset, $100,000 in portfolio B, and sold short $200,000 of portfolio A. Your expected profit from this strategy would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
A. -$1,000  
B. $0  
C. $1,000  
D. $2,000  
E. none of the above

 Consider the multifactor APT. There are two independent economic factors, F1and F2. The risk-free rate of return is 6%. The following information is available about two well-diversified portfolios:  
  
  
  


5. Assuming no arbitrage opportunities exist, the risk premium on the factor F2portfolio should be \_\_\_\_\_\_\_\_\_\_\_.   
A. 3%  
B. 4%  
C. 5%  
D. 6%  
E. none of the above

6. A zero-investment portfolio with a positive expected return arises when \_\_\_\_\_\_\_\_\_.   
A. an investor has downside risk only  
B. the law of prices is not violated  
C. the opportunity set is not tangent to the capital allocation line  
D. a risk-free arbitrage opportunity exists  
E. none of the above

7. An investor will take as large a position as possible when an equilibrium price relationship is violated. This is an example of \_\_\_\_\_\_\_\_\_.   
A. a dominance argument  
B. the mean-variance efficiency frontier  
C. a risk-free arbitrage  
D. the capital asset pricing model  
E. none of the above

8. The APT differs from the CAPM because the APT \_\_\_\_\_\_\_\_\_.   
A. places more emphasis on market risk  
B. minimizes the importance of diversification  
C. recognizes multiple unsystematic risk factors  
D. recognizes multiple systematic risk factors  
E. none of the above

9. The feature of the APT that offers the greatest potential advantage over the CAPM is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
A. use of several factors instead of a single market index to explain the risk-return relationship  
B. identification of anticipated changes in production, inflation and term structure as key factors in explaining the risk-return relationship  
C. superior measurement of the risk-free rate of return over historical time periods  
D. variability of coefficients of sensitivity to the APT factors for a given asset over time  
E. none of the above

 There are three stocks, A, B, and C. You can either invest in these stocks or short sell them. There are three possible states of nature for economic growth in the upcoming year; economic growth may be strong, moderate, or weak. The returns for the upcoming year on stocks A, B, and C for each of these states of nature are given below:  
  
  
  


10. If you invested in an equally weighted portfolio of stocks B and C, your portfolio return would be \_\_\_\_\_\_\_\_\_\_\_\_\_ if economic growth was weak.   
A. -2.5%  
B. 0.5%  
C. 3.0%  
D. 11.0%  
E. none of the above

11. If you wanted to take advantage of a risk-free arbitrage opportunity, you should take a short position in \_\_\_\_\_\_\_\_\_ and a long position in an equally weighted portfolio of \_\_\_\_\_\_\_.   
A. A, B and C  
B. B, A and C  
C. C, A and B  
D. A and B, C  
E. none of the above, none of the above

12. If you believe in the \_\_\_\_\_\_\_\_ form of the EMH, you believe that stock prices reflect all relevant information including historical stock prices and current public information about the firm, but not information that is available only to insiders.   
A. semistrong  
B. strong  
C. weak  
D. A, B, and C  
E. none of the above

13. Proponents of the EMH typically advocate   
A. an active trading strategy.  
B. investing in an index fund.  
C. a passive investment strategy.  
D. A and B  
E. B and C

14. If you believe in the reversal effect, you should   
A. buy bonds in this period if you held stocks in the last period.  
B. buy stocks in this period if you held bonds in the last period.  
C. buy stocks this period that performed poorly last period.  
D. go short.  
E. C and D

15. If stock prices follow a random walk   
A. it implies that investors are irrational.  
B. it means that the market cannot be efficient.  
C. price levels are not random.  
D. price changes are random.  
E. price movements are predictable.

16. Researchers have found that most of the small firm effect occurs   
A. during the spring months.  
B. during the summer months.  
C. in December.  
D. in January.  
E. randomly.

17. Basu (1977, 1983) found that firms with low P/E ratios   
A. earned higher average returns than firms with high P/E ratios.  
B. earned the same average returns as firms with high P/E ratios.  
C. earned lower average returns than firms with high P/E ratios.  
D. had higher dividend yields than firms with high P/E ratios.  
E. none of the above.

18. Proponents of the EMH think technical analysts   
A. should focus on relative strength.  
B. should focus on resistance levels.  
C. should focus on support levels.  
D. should focus on financial statements.  
E. are wasting their time.

19. Studies of positive earnings surprises have shown that there is   
A. a positive abnormal return on the day positive earnings surprises are announced.  
B. a positive drift in the stock price on the days following the earnings surprise announcement.  
C. a negative drift in the stock price on the days following the earnings surprise announcement.  
D. both A and B are true.  
E. both A and C are true.

20. A finding that \_\_\_\_\_\_\_\_\_ would provide evidence against the semistrong form of the efficient market theory.   
A. low P/E stocks tend to have positive abnormal returns  
B. trend analysis is worthless in determining stock prices  
C. one can consistently outperform the market by adopting the contrarian approach exemplified by the reversals phenomenon  
D. A and B  
E. A and C

21. Matthews Corporation has a beta of 1.2. The annualized market return yesterday was 13%, and the risk-free rate is currently 5%. You observe that Matthews had an annualized return yesterday of 17%. Assuming that markets are efficient, this suggests that   
A. bad news about Matthews was announced yesterday.  
B. good news about Matthews was announced yesterday.  
C. no news about Matthews was announced yesterday.  
D. interest rates rose yesterday.  
E. interest rates fell yesterday.

Answers

1. Consider a single factor APT. Portfolio A has a beta of 1.0 and an expected return of 16%. Portfolio B has a beta of 0.8 and an expected return of 12%. The risk-free rate of return is 6%. If you wanted to take advantage of an arbitrage opportunity, you should take a short position in portfolio \_\_\_\_\_\_\_\_\_\_and a long position in portfolio \_\_\_\_\_\_\_.   
a. A, A  
b. A, B  
**C**. B, A  
d. B, B  
e. A, the riskless asset

A: 16% = 1.0F + 6%; F = 10%; B: 12% = 0.8F + 6%: F = 7.5%; thus, short B and take a long position in A.

2. Consider the one-factor APT. The variance of returns on the factor portfolio is 6%. The beta of a well-diversified portfolio on the factor is 1.1. The variance of returns on the well-diversified portfolio is approximately \_\_\_\_\_\_\_\_\_\_.   
a. 3.6%  
b. 6.0%  
**C**. 7.3%  
d. 10.1%  
e. none of the above

s2P = (1.1)2(6%) = 7.26%.

3. Consider the multifactor model APT with two factors. Portfolio A has a beta of 0.75 on factor 1 and a beta of 1.25 on factor 2. The risk premiums on the factor 1 and factor 2 portfolios are 1% and 7%, respectively. The risk-free rate of return is 7%. The expected return on portfolio A is \_\_\_\_\_\_\_\_\_\_if no arbitrage opportunities exist.   
a. 13.5%  
b. 15.0%  
**C**. 16.5%  
d. 23.0%  
e. none of the above

7% + 0.75(1%) + 1.25(7%) = 16.5%.

4. Consider a one-factor economy. Portfolio A has a beta of 1.0 on the factor and portfolio B has a beta of 2.0 on the factor. The expected returns on portfolios A and B are 11% and 17%, respectively. Assume that the risk-free rate is 6% and that arbitrage opportunities exist. Suppose you invested $100,000 in the risk-free asset, $100,000 in portfolio B, and sold short $200,000 of portfolio A. Your expected profit from this strategy would be \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
a. -$1,000  
b. $0  
**C**. $1,000  
d. $2,000  
e. none of the above

$100,000(0.06) = $6,000 (risk-free position); $100,000(0.17) = $17,000 (portfolio B);

 Consider the multifactor APT. There are two independent economic factors, F1and F2. The risk-free rate of return is 6%. The following information is available about two well-diversified portfolios:  
  
  
  


5. Assuming no arbitrage opportunities exist, the risk premium on the factor F2portfolio should be \_\_\_\_\_\_\_\_\_\_\_.   
a. 3%  
b. 4%  
**C**. 5%  
d. 6%  
e. none of the above

See solution to previous problem.

6. A zero-investment portfolio with a positive expected return arises when \_\_\_\_\_\_\_\_\_.   
a. an investor has downside risk only  
b. the law of prices is not violated  
c. the opportunity set is not tangent to the capital allocation line  
**D**. a risk-free arbitrage opportunity exists  
e. none of the above

When an investor can create a zero-investment portfolio (by using none of the investor's own funds) with a possibility of a positive profit, a risk-free arbitrage opportunity exists.

7. An investor will take as large a position as possible when an equilibrium price relationship is violated. This is an example of \_\_\_\_\_\_\_\_\_.   
a. a dominance argument  
b. the mean-variance efficiency frontier  
**C**. a risk-free arbitrage  
d. the capital asset pricing model  
e. none of the above

When the equilibrium price is violated, the investor will buy the lower priced asset and simultaneously place an order to sell the higher priced asset. Such transactions result in risk-free arbitrage. The larger the positions, the greater the risk-free arbitrage profits.

8. The APT differs from the CAPM because the APT \_\_\_\_\_\_\_\_\_.   
a. places more emphasis on market risk  
b. minimizes the importance of diversification  
c. recognizes multiple unsystematic risk factors  
**D**. recognizes multiple systematic risk factors  
e. none of the above

The CAPM assumes that market returns represent systematic risk. The APT recognizes that other macroeconomic factors may be systematic risk factors.

9. The feature of the APT that offers the greatest potential advantage over the CAPM is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.   
**A**. use of several factors instead of a single market index to explain the risk-return relationship  
b. identification of anticipated changes in production, inflation and term structure as key factors in explaining the risk-return relationship  
c. superior measurement of the risk-free rate of return over historical time periods  
d. variability of coefficients of sensitivity to the APT factors for a given asset over time  
e. none of the above

The advantage of the APT is the use of multiple factors, rather than a single market index, to explain the risk-return relationship. However, APT does not identify the specific factors.

 There are three stocks, A, B, and C. You can either invest in these stocks or short sell them. There are three possible states of nature for economic growth in the upcoming year; economic growth may be strong, moderate, or weak. The returns for the upcoming year on stocks A, B, and C for each of these states of nature are given below:  
  
  
  


10. If you invested in an equally weighted portfolio of stocks B and C, your portfolio return would be \_\_\_\_\_\_\_\_\_\_\_\_\_ if economic growth was weak.   
a. -2.5%  
b. 0.5%  
c. 3.0%  
**D**. 11.0%  
e. none of the above

0.5(0%) + 0.5(22%) = 11%.

11. If you wanted to take advantage of a risk-free arbitrage opportunity, you should take a short position in \_\_\_\_\_\_\_\_\_ and a long position in an equally weighted portfolio of \_\_\_\_\_\_\_.   
a. A, B and C  
b. B, A and C  
c. C, A and B  
d. A and B, C  
**E. none of the above, none of the above**

12. If you believe in the \_\_\_\_\_\_\_\_ form of the EMH, you believe that stock prices reflect all relevant information including historical stock prices and current public information about the firm, but not information that is available only to insiders.   
**A**. semistrong  
b. strong  
c. weak  
d. A, B, and C  
e. none of the above

The semistrong form of EMH maintains that stock prices immediately reflect all historical and current public information, but not inside information.

13. Proponents of the EMH typically advocate   
a. an active trading strategy.  
b. investing in an index fund.  
c. a passive investment strategy.  
d. A and B  
**E**. B and C

Believers of market efficiency advocate passive investment strategies, and an investment in an index fund is one of the most practical passive investment strategies, especially for small investors.

 14. If you believe in the reversal effect, you should   
a. buy bonds in this period if you held stocks in the last period.  
b. buy stocks in this period if you held bonds in the last period.  
**C**. buy stocks this period that performed poorly last period.  
d. go short.  
e. C and D

The reversal effect states that stocks that do well in one period tend to perform poorly in the subsequent period, and vice versa.

15. If stock prices follow a random walk   
a. it implies that investors are irrational.  
b. it means that the market cannot be efficient.  
c. price levels are not random.  
**D**. price changes are random.  
e. price movements are predictable.

A random walk means that the changes in prices are random and independent.

16. Researchers have found that most of the small firm effect occurs   
a. during the spring months.  
b. during the summer months.  
c. in December.  
**D**. in January.  
e. randomly.

Much of the so-called small firm effect simply may be the tax-effect as investors sell stocks on which they have losses in December and reinvest the funds in January. As small firms are especially volatile, these actions affect small firms in a more dramatic fashion.

17. Basu (1977, 1983) found that firms with low P/E ratios   
**A**. earned higher average returns than firms with high P/E ratios.  
b. earned the same average returns as firms with high P/E ratios.  
c. earned lower average returns than firms with high P/E ratios.  
d. had higher dividend yields than firms with high P/E ratios.  
e. none of the above.

Firms with high P/E ratios already have an inflated price relative to earnings and thus tend to have lower returns than low P/E ratio stocks. However, the P/E ratio may capture risk not fully impounded in market betas so this may represent an appropriate risk adjustment rather than a market anomaly.

18. Proponents of the EMH think technical analysts   
a. should focus on relative strength.  
b. should focus on resistance levels.  
c. should focus on support levels.  
d. should focus on financial statements.  
**E**. are wasting their time.

Technical analysts attempt to predict future stock prices from historic stock prices; proponents of EMH believe that stock price changes are random variables.

19. Studies of positive earnings surprises have shown that there is   
a. a positive abnormal return on the day positive earnings surprises are announced.  
b. a positive drift in the stock price on the days following the earnings surprise announcement.  
c. a negative drift in the stock price on the days following the earnings surprise announcement.  
**D**. both A and B are true.  
e. both A and C are true.

The market appears to adjust to earnings information gradually, resulting in a sustained period of abnormal returns.

20. A finding that \_\_\_\_\_\_\_\_\_ would provide evidence against the semistrong form of the efficient market theory.   
a. low P/E stocks tend to have positive abnormal returns  
b. trend analysis is worthless in determining stock prices  
c. one can consistently outperform the market by adopting the contrarian approach exemplified by the reversals phenomenon  
d. A and B  
**E**. A and C

Both A and C are inconsistent with the semistrong form of the EMH.

21. Matthews Corporation has a beta of 1.2. The annualized market return yesterday was 13%, and the risk-free rate is currently 5%. You observe that Matthews had an annualized return yesterday of 17%. Assuming that markets are efficient, this suggests that   
a. bad news about Matthews was announced yesterday.  
**B**. good news about Matthews was announced yesterday.  
c. no news about Matthews was announced yesterday.  
d. interest rates rose yesterday.  
e. interest rates fell yesterday.

AR = 17% - (5% + 1.2 (8%)) = +2.4%. A positive abnormal return suggests that there was firm-specific good news.