

科目：財務管理

適用：財金系

編號：252

考生注意：

1. 依次序作答，只要標明題號，不必抄題。
2. 答案必須寫在答案卷上，否則不予計分。
3. 限用藍、黑色筆作答；試題須隨卷繳回。

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## I. 單選題 (4% for each question, Total 100%):

1. You are considering investing \$1,000 in a T-bill that pays 0.05 and a risky portfolio,  $P$ , constructed with two risky securities,  $X$  and  $Y$ . The weights of  $X$  and  $Y$  in  $P$  are 0.60 and 0.40, respectively.  $X$  has an expected rate of return of 0.14 and variance of 0.01, and  $Y$  has an expected rate of return of 0.10 and a variance of 0.0081.  
What would be the dollar value of your positions in  $X$ ,  $Y$ , and the T-bills, respectively, if you decide to hold a portfolio that has an expected outcome of \$1,120?  
(A) \$568; \$378; \$54  
(B) \$568; \$54; \$378  
(C) \$378; \$54; \$568  
(D) \$108; \$514; \$378  
(E) Cannot be determined.
2. Which of the following statement(s) is(are) **true** regarding the variance of a portfolio of two risky securities?  
I) The higher the coefficient of correlation between securities, the greater the reduction in the portfolio variance.  
II) There is a linear relationship between the securities' coefficient of correlation and the portfolio variance.  
III) The degree to which the portfolio variance is reduced depends on the degree of correlation between securities.  
(A) I only  
(B) II only  
(C) III only  
(D) I and III  
(E) II and III
3. 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 (each equally likely to occur); 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:

Stock	State of Nature		
	Strong Growth	Moderate Growth	Weak Growth
A	39%	17%	-5%
B	30%	15%	0%
C	6%	14%	22%

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) A, C and B.
- (C) A and B, C.
- (D) B and A, C.
- (E) C and A, B.

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4. The risk premium on the market portfolio will be proportional to
  - (A) the average degree of risk aversion of the investor population.
  - (B) the risk of the market portfolio as measured by its variance.
  - (C) the risk of the market portfolio as measured by its beta.
  - (D) the average degree of risk aversion of the investor population and the risk of the market portfolio as measured by its variance.
  - (E) the average degree of risk aversion of the investor population and the risk of the market portfolio as measured by its beta.
5. The separation property refers to the conclusion that
  - (A) the determination of the best risky portfolio is objective and the choice of the best complete portfolio is subjective.
  - (B) the choice of the best complete portfolio is objective and the determination of the best risky portfolio is objective.
  - (C) the choice of inputs to be used to determine the efficient frontier is objective and the choice of the best CAL (Capital Allocation Line) is subjective.
  - (D) the determination of the best CAL (Capital Allocation Line) is objective and the choice of the inputs to be used to determine the efficient frontier is subjective.
  - (E) investors are separate beings and will therefore have different preferences regarding the risk-return tradeoff.

6. Consider the following probability distribution for stocks A and B:

State	Probability	Return on Stock A	Return on Stock B
1	0.10	10%	8%
2	0.20	13%	7%
3	0.20	12%	6%
4	0.30	14%	9%
5	0.20	15%	8%

Which of the following portfolio(s) is(are) on the efficient frontier?

- (A) The portfolio with 10% in A and 90% in B.
  - (B) The portfolio with 15% in A and 85% in B.
  - (C) The portfolio with 20% in A and 80% in B.
  - (D) The portfolio with 26% in A and 74% in B.
  - (E) A and B are both on the efficient frontier.
7. The risk-free rate is 4%. The expected market rate of return is 12%. Which of the following statement is true?
    - (A) If you expect stock X with a beta of 0.9 to offer a rate of return of 10%, you should buy stock X because it is overpriced.
    - (B) If you expect stock X with a beta of 1.0 to offer a rate of return of 10%, you should sell short stock X because it is overpriced.
    - (C) If you expect stock X with a beta of 1.2 to offer a rate of return of 15%, you should buy stock X because it is overpriced.
    - (D) If you expect stock X with a beta of 1.5 to offer a rate of return of 15%, you should sell short stock X because it is underpriced.
    - (E) If you expect stock X with a beta of 1.5 to offer a rate of return of 15%, you should buy stock X because it is underpriced.

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8. 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) -\$2,000  
(B) -\$1,000  
(C) \$0  
(D) \$1,000  
(E) \$2,000
9. Consider the multifactor APT with two factors. Stock A has an expected return of 17.6%, a beta of 1.45 on factor 1, and a beta of .86 on factor 2. The risk premium on the factor 1 portfolio is 3.2%. The risk-free rate of return is 5%. What is the expected return of Stock B with a beta of 0.8 on factor 1, and a beta of 1.2 on factor 2?
- (A) 9.260%  
(B) 18.672%  
(C) 16.250%  
(D) 12.460%  
(E) 5.000%
10. Which one of the following statements about convertible bond is **false**?
- I) The longer the call protection on a convertible bond, the less the security is worth.  
II) The more volatile the underlying stock, the greater the value of the conversion feature.  
III) The smaller the spread between the dividend yield on the stock and the yield-to-maturity on the bond, the more the convertible is worth.  
IV) The collateral that is used to secure a convertible bond is one reason convertibles are more attractive than the underlying stock.
- (A) I only.  
(B) II only.  
(C) IV only.  
(D) I and III.  
(E) I, III and IV.
11. Consider two bonds, A and B. Both bonds presently are selling at their par value of \$1,000. Each pays interest of \$120 annually. Bond A will mature in five years, while bond B will mature in six years. If the yields to maturity on the two bonds change from 12% to 10%,
- (A) both bonds will increase in value, but bond A will increase more than bond B.  
(B) both bonds will increase in value, but bond B will increase more than bond A.  
(C) both bonds will decrease in value, but bond A will decrease more than bond B.  
(D) both bonds will decrease in value, but bond B will decrease more than bond A.  
(E) None of the options.



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12. Which of the following two bonds is more price sensitive to changes in interest rates?
- 1) A par value bond, X, with a 5-year-to-maturity and a 10% coupon rate.
  - 2) A zero-coupon bond, Y, with a 5-year-to-maturity and a 10% yield to maturity.
- (A) Bond X because of the higher yield to maturity.  
(B) Bond X because of the longer time to maturity.  
(C) Bond Y because of the longer duration.  
(D) Both have the same sensitivity because both have the same yield to maturity.  
(E) None of the options.
13. Which of the following is **not true**?
- (A) Holding other things constant, the duration of a bond increases with time to maturity.  
(B) Given time to maturity, the duration of a zero-coupon increases with yield to maturity.  
(C) Given time to maturity and yield to maturity, the duration of a bond is lower when the coupon rate is lower.  
(D) Duration is a better measure of price sensitivity to interest rate changes than is time to maturity.  
(E) All of the options.
14. HighFlyer Stock currently sells for \$48. A one-year call option with strike price of \$55 sells for \$9, and the risk-free interest rate is 6%. What is the price of a one-year put with strike price of \$55?
- (A) \$9.00  
(B) \$12.89  
(C) \$15.60  
(D) \$16.00  
(E) \$18.72
15. Which of the following are **true** about the interest-rate sensitivity of bonds?
- I) Bond prices and yields are inversely related.  
II) Prices of long-term bonds tend to be more sensitive to interest-rate changes than prices of short-term bonds.  
III) Interest-rate risk is directly related to the bond's coupon rate.  
IV) The sensitivity of a bond's price to a change in its yield to maturity is inversely related to the yield to maturity at which the bond is currently selling.
- (A) I and II  
(B) I and III.  
(C) I, II, and IV  
(D) II, III, and IV  
(E) I, II, III, and IV
16. An American call option buyer on a nondividend paying stock will
- (A) always exercise the call as soon as it is in the money.  
(B) only exercise the call when the stock price exceeds the previous high.  
(C) buy an offsetting put whenever the stock price drops below the strike price.  
(D) never exercise the call early.  
(E) None of the options.

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17. Which of the following is **not true**?

- (A) The current market price of a share of JNJ stock is \$60. If a put option on this stock has a strike price of \$55, the put is out of the money.
- (B) The current market price of a share of MOT stock is \$15. If a put option on this stock has a strike price of \$20, the put is in the money and can be exercised profitably.
- (C) The current market price of a share of IBM stock is \$195. If a call option on this stock has a strike price of \$195, the call is at the money.
- (D) The current market price of a share of Disney stock is \$60. If a call option on this stock has a strike price of \$65, the call is in the money.
- (E) The current market price of a share of CSCO stock is \$22. If a call option on this stock has a strike price of \$20, the call is in the money and sells for a higher price than if the market price of CSCO stock is \$21.

18. Which of the following is **false** about profits from futures contracts?

- I) The person with the long position gets to decide whether to exercise the futures contract and will only do so if there is a profit to be made.
- II) It is possible for both the holder of the long position and the holder of the short position to earn a profit.
- III) The clearinghouse makes most of the profit.
- IV) The amount that the holder of the long position gains must equal the amount that the holder of the short position loses.

- (A) I only
- (B) II only
- (C) III only
- (D) IV only
- (E) I, II, and III

19. In a futures contract the futures price is

- (A) determined by the buyer and the seller when they initiate the contract.
- (B) determined by the buyer and the seller when the delivery of the commodity takes place.
- (C) determined by the futures exchange.
- (D) determined independently by the provider of the underlying asset.
- (E) None of the options.

20. Which of the following would best indicate that the firm is carrying excess inventory?

- (A) A decline in sales.
- (B) A decline in the current ratio.
- (C) A decline in days' sales in inventory.
- (D) A stable current ratio with declining quick ratios.
- (E) A rise in total asset turnover.

21. The cost of preferred stock is equal to:

- (A) the preferred stock dividend by its par value.
- (B) preferred stock dividend multiplied by the net market price.
- (C)  $[(1 - \text{tax rate}) \times \text{preferred stock dividend}]$  divided by the net price.
- (D) the preferred stock dividend divided by market price net of flotation costs.
- (E) None of the options.

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22. Assuming continued inflation, a firm that uses LIFO will tend to have a(n) \_\_\_\_\_ current ratio than a firm using FIFO, and the difference will tend to \_\_\_\_\_ as time passes.
- (A) lower; increase.  
(B) lower; decrease.  
(C) higher; decrease.  
(D) higher; increase.  
(E) identical; remain the same.
23. The level of real income of a firm can be distorted by the reporting of depreciation and interest expense. During periods of high inflation, the level of reported depreciation tends to \_\_\_\_\_ income, and the level of interest expense reported tends to \_\_\_\_\_ income.
- (A) overstate; overstate.  
(B) overstate; understate.  
(C) understate; understate.  
(D) understate; overstate.  
(E) There is no discernable pattern.
24. Which of the following statements is FALSE?
- (A) The NPV method assumes that cash flows will be reinvested at the cost of capital while the IRR method assumes that they are reinvested at the IRR.  
(B) The discounted payback period is the time it takes for the present value of the project cash inflows to equal the cost of the investment.  
(C) The MIRR assumes that all cash flows are reinvested at the cost of capital and not the IRR.  
(D) If two equally sized mutually exclusive projects have different lives the NPV method and the MIRR method will give equivalent decisions.  
(E) The discounted payback period is generally shorter than the regular payback.
25. Which of the following statements about dividends is TRUE?
- (A) The tax preference theory suggests that a firm can increase its stock price by increasing its dividend payout ratio.  
(B) If a firm follows a residual dividend policy its dividend payout will tend to rise whenever the firm's investment opportunities improve.  
(C) The signaling hypothesis is based on the concept that investors prefer current dividends over capital gains.  
(D) The bird-in-hand theory implies that firms can reduce their cost of equity capital by reducing their dividend payout ratios.  
(E) If a firm follows a residual dividend policy, then a sudden increase in the number of profitable projects is likely to reduce the firm's dividend payout.

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