

國立臺灣師範大學 101 學年度碩士班招生考試試題

科目：財務管理

適用系所：管理研究所

注意：1.本試題共 12 頁，請依序在答案卷上作答，並標明題號，不必抄題。2.答案必須寫在指定作答區內，否則依規定扣分。

Multiple choices (2 points each)

1. In a return-standard deviation space, which of the following statements is (are) true for risk-averse investors? (The vertical and horizontal lines are referred to as the expected return-axis and the standard deviation-axis, respectively.)

- I) An investor's own indifference curves might intersect.
 - II) Indifference curves have negative slopes.
 - III) In a set of indifference curves, the highest offers the greatest utility.
 - IV) Indifference curves of two investors might intersect.
- A. I and II only
 - B. II and III only
 - C. I and IV only
 - D. III and IV only
 - E. II and IV only

2. If a firm borrows \$100 million for one year at an interest rate of 9%, what is the present value of the interest tax shield? Assume a 35% tax rate and under the classical tax system.

- A. \$2.89 million
- B. \$35.0 million
- C. \$3.15 million
- D. \$9.0 million
- E. None of the above

3. The "modified duration" used by practitioners is equal to the Macaulay duration

- A. times the change in interest rate.
- B. times (one plus the bond's yield to maturity).
- C. divided by (one minus the bond's yield to maturity).
- D. divided by (one plus the bond's yield to maturity).
- E. None of these is correct.

4. Holding other factors constant, the interest-rate risk of a coupon bond is lower when the bond's:

- A. term-to-maturity is lower.
- B. coupon rate is higher.
- C. yield to maturity is higher.
- D. term-to-maturity is lower and coupon rate is higher.
- E. All of these are correct.

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5. Suppose 1-year T-bills currently yield 4.25 percent and the future inflation rate is expected to be constant at 2.50 percent per year. What is the real risk-free rate of return, r^* ? Disregard cross-product terms (i.e., if averaging is required, use the arithmetic average).

- A. 3.88%
- B. 1.75%
- C. 6.75%
- D. 4.25%
- E. None of the above; the correct answer is _____.

6. The manager of an English subsidiary of a U.S. firm is trying to decide whether to borrow, for one year, dollars at 7.8% or pounds sterling at 12%. If the current value of the pound is \$1.87, at what end-of-year exchange rate would the firm be indifferent now between borrowing dollars and pounds?

- A. 1.940125
- B. 1.896125
- C. 1.854875
- D. 1.799875
- E. None of the above; the correct answer is _____.

7. Which of the following statements are correct in relation to M&M Proposition II with no taxes?

- I. The required return on assets is equal to the weighted average cost of capital.
 - II. Financial risk is determined by the debt-equity ratio.
 - III. Financial risk determines the return on assets.
 - IV. The cost of equity declines when the amount of leverage used by a firm rises.
- A. I and III only
 - B. II and IV only
 - C. I and II only
 - D. III and IV only
 - E. I and IV only

8. Wang Industrial Supply has a pre-tax cost of debt of 7.6 percent, a cost of equity of 14.3 percent, and a cost of preferred stock of 8.5 percent. The firm has 220,000 shares of common stock outstanding at a market price of \$27 a share. There are 25,000 shares of preferred stock outstanding at a market price of \$41 a share. The bond issue has a face value of \$550,000 and a market quote of 101.2. The company's tax rate is 37 percent. What is the firm's weighted average cost of capital?

- A. 10.18 percent
- B. 10.84 percent
- C. 11.32 percent

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- D. 12.60 percent
- E. 12.81 percent

9. An inverted yield curve implies that:

- A. Long-term interest rates are lower than short-term interest rates.
- B. Long-term interest rates are higher than short-term interest rates.
- C. Long-term interest rates are the same as short-term interest rates.
- D. Intermediate term interest rates are higher than either short- or long-term interest rates.
- E. None of these is correct.

10. The risk-free rate and the expected market rate of return are 0.06 and 0.12, respectively.

According to the capital asset pricing model (CAPM), the expected rate of return on security X with a beta of 1.2 is equal to.

- A. 0.06.
- B. 0.144.
- C. 0.12.
- D. 0.132.
- E. 0.18.

11. Which statement is **not** true regarding the Capital Market Line (CML)?

- A. The CML is the line from the risk-free rate through the market portfolio.
- B. The CML is the best attainable capital allocation line.
- C. The CML is also called the security market line.
- D. The CML always has a positive slope.
- E. The risk measure for the CML is standard deviation.

12. In a freely floating exchange rate system, if the capital account surplus for the U.S. rises, what will most likely happen to the real value of the dollar?

- A. it will decline
- B. it will rise
- C. there is no impact on the dollar
- D. it can go either way
- E. the IMF will step in to adjust rising exchange rates

13. Suppose annual inflation rates in the U.S. and Mexico are expected to be 6% and 80%, respectively, over the next several years. If the current spot rate for the Mexican peso is \$.01, then the best estimate of the peso's spot value in 3 years is

- A. \$.00588
- B. \$.02380

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- C. \$.01698
- D. \$.00204
- E. \$.08896

14. A security has an expected rate of return of 0.11 and a beta of 2.1. The market expected rate of return is 0.09 and the risk-free rate is 0.045. The alpha of the stock is

- A. -2.95%.
- B. -3.7%.
- C. 6.3%.
- D. 3.5%.
- E. 2.4%.

15. What Greek is used to measure the sensitivity of option value relative to underlying volatilities?

- A. Gamma
- B. Theta
- C. Vega
- D. Delta
- E. Rho

16. A bond will sell at a discount when _____.

- A. the coupon rate is greater than the current yield and the current yield is greater than yield to maturity
- B. the coupon rate is greater than yield to maturity
- C. the coupon rate is less than the current yield and the current yield is greater than the yield to maturity
- D. the coupon rate is less than the current yield and the current yield is less than yield to maturity
- E. None of these is correct.

17. According to put-call parity, a synthetic put contains:

- A. a long position in the call, a short position in the underlying, and a long position in the bond.
- B. a long position in the call, a long position in the underlying, and a long position in the bond.
- C. a short position in the call, a long position in the underlying, and a long position in the bond.
- D. a long position in the call, a long position in the underlying, and a short position in the bond.
- E. a short position in the call, a short position in the underlying, and a long position in the bond.

18. Suppose you purchase three IBM May 100 call contracts (1 contract = 100 shares) at \$5 and write three IBM May 105 call contracts at \$2. If, at expiration, the price of a share of IBM stock is \$103, your profit would be

- A. \$1500.

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B.\$900.

C.\$0.

D.\$300.

E. None of the above; the correct answer is _____.

19. In the single-index model represented by the equation $r_i = E(r_i) + \beta_i F + e_i$, the term e_i represents

A. the impact of unanticipated macroeconomic events on security i's return.

B. the impact of unanticipated firm-specific events on security i's return.

C. the impact of anticipated macroeconomic events on security i's return.

D. the impact of anticipated firm-specific events on security i's return.

E. the impact of changes in the market on security i's return.

20. Which of the following is true?

A. Holding other things constant, the duration of a bond decreases 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 higher 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. Given time to maturity and yield to maturity, the duration of a bond is higher when the coupon rate is lower, and duration is a better measure of price sensitivity to interest rate changes than is time to maturity.

21. Which of the following statements is (are) **true**?

I) Risk-averse investors reject investments that are fair games.

II) Risk-neutral investors judge risky investments only by the expected returns.

III) Risk-averse investors judge investments only by their riskiness.

IV) Risk-loving investors will not engage in fair games.

A. I only

B. II only

C. I and II only

D. II and III only

E. II, III, and IV only

22. An investor invests 30 percent of his wealth in a risky asset with an expected rate of return of 0.15 and a variance of 0.04 and 70 percent in a T-bill that pays 6 percent. His portfolio's expected return and standard deviation are _____ and _____, respectively.

A. 0.114; 0.12

B. 0.087; 0.06

C. 0.295; 0.12

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D. 0.087; 0.12

E. 0.795; 0.14

23. _____ is not a factor that causes currency supply and demand schedules to change.

A. Relative inflation rates

B. Relative interest rates

C. Relative income levels

D. Expectations

E. All of the above are factors that cause currency supply and demand schedules to change.

24. American Bank quotes a bid rate of \$0.026 and an ask rate of \$0.028 for the Indian rupee (INR); National Bank quotes a bid rate of \$0.024 and an ask rate for \$0.025. Locational arbitrage would involve

A. Buying rupees from National Bank at the ask rate and selling them to American Bank at the bid rate.

B. Buying rupees from American Bank at the bid rate and selling them to National Bank at the ask rate.

C. Buying rupees from American Bank at the ask rate and selling to National Bank at the bid rate.

D. Buying rupees from National Bank at the bid rate and selling them to American Bank at the ask rate.

E. Locational arbitrage is not possible in this case.

25. Generally, multinational corporations with less foreign costs than foreign revenue will be _____ affected by a _____ foreign currency.

A. favorably; stronger

B. not; stronger

C. favorably; weaker

D. not; weaker

E. B and D

26. If a project has a net present value equal to zero, then:

I. the present value of the cash inflows exceeds the initial cost of the project.

II. the project produces a rate of return that just equals the rate required to accept the project.

III. the project is expected to produce only the minimally required cash inflows.

IV. any delay in receiving the projected cash inflows will cause the project to have a negative net present value.

A. II and III only

B. II and IV only

C. I, II, and IV only

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D.II, III, and IV only

E.I, II, and III only

27. Which of the following are examples of an incremental cash flow?

I. an increase in accounts receivable

II. a decrease in net working capital

III. an increase in taxes

IV. a decrease in the cost of goods sold

A.I and III only

B.III and IV only

C.I and IV only

D.I, III, and IV only

E.I, II, III, and IV

28. A company sells customized shoes. Currently, it sells 10,000 pairs of shoes annually at an average price of \$2,040 a pair. It is considering adding a lower-priced line of shoes which sell for \$1,470 a pair. The company estimates that it can sell 5,000 pairs of the lower-priced shoes but will sell 1,000 less pairs of the higher-priced shoes by doing so. What is the amount of the sales that should be used when evaluating the addition of the lower-priced shoes?

A.\$5,310,000

B.\$7,350,000

C.\$9,390,000

D.\$23,670,000

E. None of the above; the correct answer is _____.

29. You own a house that you rent for \$12,000 a month. The maintenance expenses on the house average \$2,000 a month. The house cost \$890,000 when you purchased it several years ago. A recent appraisal on the house valued it at \$2,100,000. The annual property taxes are \$50,000. If you sell the house you will incur \$200,000 in expenses. You are deciding whether to sell the house or convert it for your own use as a professional office. What value should you place on this house when analyzing the option of using it as a professional office?

A. \$890,000

B. \$1,200,000

C. \$1,850,000

D. \$1,900,000

E. \$2,100,000

30. A project will increase sales by \$60,000 and cash expenses by \$51,000. The project has fixed assets for \$40,000 and will be depreciated using straight-line depreciation to a zero book value over

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- the 4-year life of the project. The company has a marginal tax rate of 35%. What is the operating cash flow of the project using the tax shield approach?
- A. \$5,850
 - B. \$8,650
 - C. \$9,350
 - D. \$9,700
 - E. \$10,350
31. A company needs to maintain 20% of its sales in net working capital. The company is considering a 3-year project which will increase sales from their current level of \$110,000 to \$130,000 the first year and \$145,000 a year for the following two years. What amount should be included in the project analysis for the last year of the project in regards to the net working capital?
- A. \$35,000
 - B. \$7,000
 - C. \$0
 - D. -\$7,000
 - E. None of the above; the correct answer is _____.
32. A project has an accounting break-even point of 2,000 units. The fixed costs are \$4,200 and the depreciation expense is \$400. The projected variable cost per unit is \$23.10. What is the projected sales price?
- A. \$20.80
 - B. \$21.00
 - C. \$21.20
 - D. \$25.40
 - E. \$25.60
33. A company is analyzing a new product. It determines that an operating cash flow of \$16,700 will result in a zero net present value, which is a company requirement for project acceptance. The fixed costs are \$12,378 and the contribution margin is \$6.20. The company feels that it can realistically capture 10% of the 50,000 unit market for this product. Should the company develop the new product? Why or why not?
- A. Yes; because 5,000 units of sales exceeds the quantity required for a zero net present value
 - B. Yes; because the internal break-even point is less than 5,000 units
 - C. No; because the firm can not generate sufficient sales to obtain at least a zero net present value
 - D. No; because the project has an expected internal rate of return of negative 100%
 - E. No; because the project will not pay back on a discounted basis
34. A company is considering a project that has an initial cost today of \$10,000. The project has a

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two-year life with cash inflows of \$6,500 a year. Should the company decide to wait one year to commence this project, the initial cost will increase by 5% and the cash inflows will increase to \$7,500 a year. What is the value of the option to wait if the applicable discount rate is 10%?

- A. \$1,006.76
- B. \$1,235.54
- C. \$1,509.28
- D. \$1,606.76
- E. \$1,735.54

35. A stock you are interested in paid a dividend of \$1 last month. The anticipated growth rate in dividends and earnings is 25% for the next 2 years before settling down to a constant 5% growth rate. The discount rate is 12%. Calculate the expected price of the stock.

- A. \$15.38
- B. \$20.50
- C. \$21.04
- D. \$22.27
- E. \$26.14

36. You want your portfolio beta to be 1.20. Currently, your portfolio consists of \$100 invested in stock A with a beta of 1.4 and \$300 in stock B with a beta of 0.6. You have another \$400 to invest and want to divide it between an asset with a beta of 1.6 and a risk-free asset. How much should you invest in the risk-free asset?

- A. \$0
- B. \$140
- C. \$200
- D. \$320
- E. \$400

37. In the one factor (APT) model, the characteristic line to estimate β_i passes through the origin, unlike the estimate used in the CAPM because:

- A. the relationship is between the actual return on a security and the market index.
- B. the relationship measures the change in the security return over time versus the change in the market return.
- C. the relationship measures the change in excess return on a security versus GNP.
- D. the relationship measures the change in excess return on a security versus the return on the factor about its mean of zero.
- E. Cannot be determined without actual data.

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38. Dividends are relevant and dividend policy irrelevant when:

- A. cash dividends are always constant and dividend policy is changed as management needs.
- B. cash dividends are increased for one year while others are held constant, thus causing an increase in stock price, and dividend policy establishes the trade-off between dividends at different dates.
- C. cash dividends are always constant and dividend policy establishes the trade-off between dividends at different dates.
- D. cash dividends are increased for one payment while others are held constant and dividend policy is changed as management needs.
- E. None of the above, and the correct answer is _____

39. You own 500 shares of A stock. It is January 1, 2012, and the company recently issued a statement that it will pay a \$1.00 per share dividend on December 31, 2012 and a \$.50 per share dividend on December 31, 2013. You do not want any dividend this year but do want as much dividend income as possible next year. Your required return on this stock is 12%. Ignoring taxes, what will your homemade dividend per share be in 2013?

- A. \$0
- B. \$.50
- C. \$1.50
- D. \$1.62
- E. \$1.68

40. A firm has a market value equal to its book value. Currently, the firm has excess cash of \$500 and other assets of \$9,500. Equity is worth \$10,000. The firm has 250 shares of stock outstanding and net income of \$1,400. What will the stock price per share be if the firm pays out its excess cash as a cash dividend?

- A. \$36
- B. \$38
- C. \$40
- D. \$42
- E. \$44

41. A company has 125,000 shares of stock outstanding at a market price of \$93 a share. The company has just announced a 7-for-3 stock split. What will the market price per share be after the split?

- A. \$38.27
- B. \$39.86
- C. \$40.40
- D. \$46.18
- E. \$55.80

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42. Which of the following are factors that favor a high dividend policy?
- I. stockholders desire for current income
 - II. tendency for higher stock prices for high dividend paying firms
 - III. investor dislike of uncertainty
 - IV. high percentage of tax-exempt institutional stockholders
- A. I and III only
 - B. II and IV only
 - C. I, III, and IV only
 - D. II, III, and IV only
 - E. I, II, III, and IV
43. If you ignore taxes and transaction costs, a stock repurchase will:
- I. reduce the total assets of a firm.
 - II. increase the earnings per share.
 - III. reduce the PE ratio more than an equivalent stock dividend.
 - IV. reduce the total equity of a firm.
- A. I and III only
 - B. II and IV only
 - C. I, II, and IV only
 - D. I, III, and IV only
 - E. I, II, III, and IV
44. Which of the following are valid reasons for a firm to reduce or eliminate its cash dividends?
- I. The firm is on the verge of violating a bond restriction which requires a current ratio of 1.8 or higher.
 - II. A firm has just received a patent on a new product for which there is strong market demand and it needs the funds to bring the product to the marketplace.
 - III. The firm can raise new capital easily at a very low cost.
 - IV. The tax laws have recently changed such that dividends are taxed at an investor's marginal rate while capital gains are tax exempt.
- A. I and III only
 - B. II and IV only
 - C. II, III, and IV only
 - D. I, II, and IV only
 - E. I, II, III, and IV
45. Which of the following tend to increase the appeal of a firm's stock to the average investor?
- I. a cessation of dividends by a firm which has a long history of increasing dividends

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II. the distribution of a special dividend by a dividend-paying firm

III. a reverse stock split for a low-priced stock

IV. the declaration of a stock dividend by a growth firm

A. I and III only

B. II and IV only

C. I, II, and IV only

D. II, III, and IV only

E. I, II, III, and IV

46. Which of the following actions will tend to decrease the accounts receivable period?

I. loosening the standards for granting credit to customers

II. increasing the discount for early payment by credit customers

III. increasing the finance charges applied to all customer balances outstanding over thirty days

IV. granting discounts for cash sales

A. I and III only

B. II and IV only

C. I, II and IV only

D. II, III and IV only

E. I, II, III and IV

Problem: (8 points) Consider the balance sheet of a firm as follows.

Asset	Book Value	Market Value	Liability	Book Value	Market Value
Cash	300	300	Long-term Bonds	400	300
Fixed Assets	400	0	Equity	300	0
Total	700	300	Total	700	300

Suppose that the firm can choose to invest in the following project or do nothing but is liquidated today. The cost of investing in the following project is \$300. For the company, the required rate of return for this project is 50%.

The Gamble	Probability	Payoff
Win Big	15%	\$1000
Lose Big	85%	\$0

(1) What is the present value to the bondholder when the firm invests in the project?

(2) What is the present value to the bondholder when the firm is liquidated today?

(3) What is the present value to the stockholder when the firm invests in the project?

(4) What is the present value to the stockholder when the firm is liquidated today?