

# 國立臺灣師範大學 100 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 9 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，否則不予計分。

1. The trade-off theory of capital structure predicts that: (本題 2.5 分)
  - A. Unprofitable firms should borrow more than profitable ones.
  - B. Safe firms should borrow more than risky ones.
  - C. Rapidly growing firms should borrow more than mature firms.
  - D. Increasing leverage increases firm value.
  - E. D and C.
  
2. If a firm borrows \$50 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. (本題 2.5 分)
  - A. \$4.50 million
  - B. \$17.50 million
  - C. \$1.575 million
  - D. \$1.445 million
  - E. None of the above
  
3. If the Treasury yield curve is downward sloping, how would the yield to maturity on a 10-year Treasury coupon bond compare to that on a 1-year T-bill? (本題 2.5 分)
  - A. It is impossible to tell without knowing the relative risks of the two securities.
  - B. The Yield on a 10-year bond would be less than that on a 1-year bill.
  - C. The yield on a 10-year bond would have to be higher than that on a 1-year bill because of the maturity risk premium.
  - D. It is impossible to tell without knowing the coupon rates of the bonds.
  - E. The yields on the two securities would be equal.
  
4. Suppose 1-year T-bills currently yield 3.25 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). (本題 2.5 分)
  - A. 2.88%
  - B. 0.75%
  - C. 5.75%
  - D. 3.25%
  - E. None of the above; the correct answer is \_\_\_\_\_.

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5. Suppose the yield on a 5-year Treasury security is 6.50 percent and the yield on a 3-year Treasury security is 5.25 percent. Assuming the pure expectations theory is correct, what does the market expect a 2-year Treasury security will yield three years from now? (本題 2.5 分)
- A. 17.51%
  - B. 8.40%
  - C. 7.76%
  - D. 8.05%
  - 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 \$1.70, at what end-of-year exchange rate would the firm be indifferent now between borrowing dollars and pounds? (本題 2.5 分)
- A. 1.76375
  - B. 1.72375
  - C. 1.68625
  - D. 1.63625
  - E. None of the above; the correct answer is \_\_\_\_\_.
7. Which of the following factors is likely to encourage a corporation to increase the proportion of debt in its capital structure? (本題 2.5 分)
- A. An increase in the corporate tax rate.
  - B. An increase in the personal tax rate.
  - C. An increase in the company's degree of operating leverage.
  - D. The company's assets become less liquid.
  - E. An increase in expected bankruptcy costs.
8. Which of the following statements best describes the optimal capital structure? (本題 2.5 分)
- A. The optimal capital structure is the mix of debt, equity, and preferred stock that maximizes the company's earnings per share (EPS).
  - B. The optimal capital structure is the mix of debt, equity, and preferred stock that maximizes the company's stock price.
  - C. The optimal capital structure is the mix of debt, equity, and preferred stock that minimizes the company's weighted average cost of capital (WACC).
  - D. Statements A and B are correct.
  - E. Statements B and C are correct.

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9. Your family recently obtained a 30-year (360-month) \$100,000 fixed-rate mortgage. Which of the following statements is most correct? (Ignore all taxes and transactions costs.) (本題 2.5 分)
- A. The remaining balance after three years will be \$100,000 less the total amount of interest paid during the first 36 months.
  - B. The proportion of the monthly payment that goes towards repayment of principal will be higher 10 years from now than it will be this year.
  - C. The monthly payment on the mortgage will steadily decline over time.
  - D. All of the statements above are correct.
  - E. None of the statements above is correct.
10. Ken Products Inc. has a division that makes burlap bags for the citrus industry. The division has fixed costs of \$10,000 per month, and it expects to sell 42,000 bags per month. If the variable cost per bag is \$2.00, what price must the division charge in order to break even? (本題 2.5 分)
- A. \$2.24
  - B. \$2.47
  - C. \$2.82
  - D. \$3.15
  - E. \$2.00
11. Albany Motor's stock was trading at \$150 per share before its recent 3-for-1 stock split. The 3-for-1 split led to a 5 percent increase in Albany Motor's market capitalization. (Market capitalization equals the stock price times the number of shares.) What was Albany Motor's price after the stock split? (本題 2.5 分)
- A. \$ 472.50
  - B. \$ 50.00
  - C. \$ 47.62
  - D. \$ 428.57
  - E. \$ 52.50
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? (本題 2.5 分)
- 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

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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 \$.005, then the best estimate of the peso's spot value in 3 years is (本題 2.5 分)
- A. \$.00294
  - B. \$.01190
  - C. \$.00849
  - D. \$.00102
  - E. \$.02448
14. Multinational financial management requires that (本題 2.5 分)
- A. The effects of changing currency values be included in financial analyses.
  - B. Legal and economic differences be considered in financial decisions.
  - C. Political risk be excluded from multinational corporate financial analyses.
  - D. Statements A and B are correct.
  - E. All of the statements above are correct.
15. What Greek is used to measure the sensitivity of option value relative to underlying volatilities? (本題 2.5 分)
- A. Gamma
  - B. Theta
  - C. Vega
  - D. Delta
  - E. Rho
16. An investor establishes a short position in a futures contract on Day 0 when the price per contract is \$70. The investor deposits \$5 per contract to meet the initial margin requirement. The maintenance margin requirement per contract is \$3. The Day 1 settlement price that would require the investor deposit additional funds on Day 2 equal to \$4 per contract is closest to: (本題 2.5 分)
- A. \$66
  - B. \$73
  - C. \$74
  - D. \$67
  - E. None of the above; the correct answer is \_\_\_\_\_.

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17. According to put-call parity, a synthetic put contains: (本題 2.5 分)
- 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 one IBM May 100 call contract (1 contract = 100 shares) at \$5 and write one IBM May 105 call contract at \$2. If, at expiration, the price of a share of IBM stock is \$103, your profit would be (本題 2.5 分)
- A. \$500.
  - B. \$300.
  - C. \$0.
  - D. \$100.
  - E. None of the above; the correct answer is \_\_\_\_\_.
19. All the inputs in the Black-Scholes Option Pricing Model are directly observable except
- A. the price of the underlying security. (本題 2.5 分)
  - B. the risk free rate of interest.
  - C. the time to expiration.
  - D. the variance of returns of the underlying asset return.
  - E. none of the above.
20. Portfolio A consists of 400 shares of stock and 400 calls on that stock. Portfolio B consists of 500 shares of stock. The call delta is 0.5. Which portfolio has a higher dollar exposure to a change in stock price? (本題 2.5 分)
- A. Portfolio B
  - B. Portfolio A
  - C. The two portfolios have the same exposure.
  - D. A if the stock price increases and B if it decreases.
  - E. B if the stock price decreases and A if it increases.

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21. A manager's compensation plan that offers financial incentives for increases in quarterly profitability may create agency problems in that: (本題 2.5 分)
- A. the managers are not motivated by personal gain.
  - B. the board of directors may claim the credit.
  - C. short-term, not long-term profits become the focus.
  - D. investors desire stable profits.
22. Which of the following statements is NOT characteristic of mutual funds? (本題 2.5 分)
- A. They are financial institutions.
  - B. They raise money by selling shares to investors.
  - C. They pool the savings of many investors.
  - D. They offer professional management.
23. If market interest rates have increased since a company last borrowed long-term funds, the market value of these long-term funds will likely be: (本題 2.5 分)
- A. greater than their book value.
  - B. less than their book value.
  - C. equal to their book value.
  - D. unknown without knowing the maturity of the debt.
24. How much must be deposited today in an account earning 6% annually to accumulate a 20% down payment to use in purchasing a car one year from now, assuming that the car's current price is \$20,000, and inflation will be 4%? (本題 2.5 分)
- A. \$3,774
  - B. \$3,782
  - C. \$3,925
  - D. \$4,080
25. How much must be invested today in order to generate a five-year annuity of \$1,000 per year, with the first payment one year from today, at an interest rate of 12%? (本題 2.5 分)
- A. \$3,604.78
  - B. \$3,746.25
  - C. \$4,037.35
  - D. \$4,604.78

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26. A bond's yield to maturity takes into consideration: (本題 2.5 分)
- A. current yield but not price changes of a bond.
  - B. price changes but not current yield of a bond.
  - C. both current yield and price changes of a bond.
  - D. neither current yield nor price changes of a bond.
27. A stock paying \$5 in annual dividends sells now for \$80 and has an expected return of 14%. What might investors expect to pay for the stock one year from now? (本題 2.5 分)
- A. \$82.20
  - B. \$86.20
  - C. \$87.20
  - D. \$91.20
28. How much should you pay for a share of stock that offers a constant growth rate of 10%, requires a 16% rate of return, and is expected to sell for \$50 one year from now? (本題 2.5 分)
- A. \$42.00
  - B. \$45.00
  - C. \$45.45
  - D. \$47.00
29. The  $g$  in the constant-growth dividend model refers to: (本題 2.5 分)
- A. the annual growth rate for dividends.
  - B. the annual growth rate for stock price.
  - C. both 'A' and 'B' above.
  - D. neither 'A' nor 'B' above.
30. When the NPV of an investment is positive, then the IRR will be: (本題 2.5 分)
- A. equal to the opportunity cost of capital.
  - B. greater than the opportunity cost of capital.
  - C. less than the opportunity cost of capital.
  - D. less than or equal to the opportunity cost of capital.

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31. Firms that make investment decisions based upon the payback rule may be biased toward rejecting projects: (本題 2.5 分)
- A. with short lives.
  - B. with long lives.
  - C. with early cash inflows.
  - D. that have negative NPVs.
32. When graphing NPV at different discount rates for mutually exclusive projects, the project with the lower IRR should be selected whenever: (本題 2.5 分)
- A. the rate corresponding to the crossover NPV exceeds the opportunity cost of capital.
  - B. the rate corresponding to the crossover NPV is less than the opportunity cost of capital.
  - C. that IRR exceeds the opportunity cost of capital.
  - D. the NPV is negative when discounted at the IRR.
33. What is the break-even level of revenues for a firm with \$6 million in sales, variable costs of \$3.9 million, fixed costs of \$1.2 million, and depreciation of \$1 million? (本題 2.5 分)
- A. \$3,428,571
  - B. \$6,100,000
  - C. \$6,285,700
  - D. \$6,557,377
34. What is the maximum percentage of variable costs in relation to sales that a firm could experience and still break even with \$5 million revenue, \$1 million fixed costs and \$500,000 depreciation? (本題 2.5 分)
- A. 30%
  - B. 70%
  - C. 80%
  - D. 90%
35. What is the approximate variance (with the dimension %x%) of returns if over the past three years an investment returned 8.0%, -12.0%, and 15.0%? (本題 2.5 分)
- A. 31
  - B. 131
  - C. 182
  - D. 961



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36. What is the typical relationship between the standard deviation of an individual common stock and the standard deviation of a diversified portfolio of common stocks? (本題 2.5 分)
- A. Individual stock's standard deviation will be lower.
  - B. Individual stock's standard deviation will be higher.
  - C. The standard deviations should be equal.
  - D. There is no way to predict this relationship.
37. If a stock consistently goes down (up) by 1.6% when the market portfolio goes down (up) by 1.2% then its beta: (本題 2.5 分)
- A. equals 1.40.
  - B. equals 1.24.
  - C. equals 1.33.
  - D. equals 1.40.
38. What is the expected yield on the market portfolio at a time when Treasury bills yield 6% and a stock with a beta of 1.4 is expected to yield 18%? (本題 2.5 分)
- A. 8.6%
  - B. 10.8%
  - C. 12.0%
  - D. 14.6%
39. The slope of the security market line equals: (本題 2.5 分)
- A. one.
  - B. beta.
  - C. the market risk premium.
  - D. the expected return on the market portfolio.
40. Company X has 2 million shares of common stock outstanding at a book value of \$2 per share. The stock trades for \$3.00 per share. It also has \$2 million in face value of debt that trades at 90% of par. What is its ratio of debt to value for WACC purposes? (本題 2.5 分)
- A. 15.38%
  - B. 28.6%
  - C. 31.0%
  - D. 33.3%