

東吳大學 101 學年度碩士班研究生招生考試試題

第 1 頁，共 5 頁

系級	財務工程與精算數學系碩士班 A 組	考試時間	100 分鐘
科目	財務管理	本科總分	100 分

一、單選題 (共 20 題，每題 4 分，共計 80 分)

1. If next year's dividend is forecast to be \$5.00, the constant growth rate is 4%, and the discount rate is 16%, then the current stock price should be:
 - A. \$31.25
 - B. \$40.00
 - C. \$41.67
 - D. \$43.33

2. Look up prices of 10 U.S. Treasury bonds with different coupons and different maturities. Calculate how their price would change if their yields to maturity increased by 1 percentage point. Are long- or short-term bonds most affected by the change in yield? Are high- or low-coupon bonds most affected? Which of the following statement is CORRECT?
 - A. In general, yield changes have the greatest impact on short-maturity, low-coupon bonds.
 - B. In general, yield changes have the greatest impact on long-maturity, low-coupon bonds.
 - C. In general, yield changes have the greatest impact on long-maturity, high-coupon bonds.
 - D. In general, yield changes have the greatest impact on short-maturity, high-coupon bonds.

3. Project X has the following cash flows: $C_0 = +2000$, $C_1 = -1,300$ and $C_2 = -1,500$. If the IRR of the project is 25% and if the cost of capital is 18%, you would:
 - A. Accept the project
 - B. Reject the project

4. Two mutually exclusive projects have the following NPVs and project lives.

Project	NPV	Life
A	5,000/per year	3
B	6,500/per year	5

If the cost of capital is 15%, which project would you accept? (The Annuity is 2.283 for 3 years, and 3.352 for 5 years, respectively.)

- A. A
 - B. B
 - C. Both A and B
 - D. Reject both A and B
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5. Stock X has a standard deviation of return of 10%. Stock Y has a standard deviation of return of 20%. The correlation coefficient between stocks is 0.5. If you invest 60% of the funds in stock X and 40% in stock Y, what is the standard deviation of a portfolio?
 - A. 10%
 - B. 20%
 - C. 12.2%
 - D. 11.5%

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6. If the standard deviation of returns of the market is 20% and the beta of a well-diversified portfolio is 1.5, calculate the standard deviation of the portfolio:
 - A. 30%
 - B. 20%
 - C. 10%
 - D. 8%

7. Suppose you borrow at the risk-free rate an amount equal to your initial wealth and invest in a portfolio with an expected return of 16% and a standard deviation of returns of 20%. The risk-free asset has an interest rate of 4%; calculate standard deviation of the resulting portfolio:
 - A. 28%
 - B. 40%
 - C. 32%
 - D. 30%

8. If the beta of Microsoft is 1.13, risk-free rate is 3% and the market risk premium is 8%, calculate the expected return for Microsoft.
 - A. 12.04%
 - B. 15.66%
 - C. 13.94%
 - D. 8.65%

9. The market value of Cable Company's equity is \$60 million and the market value of its risk-free debt is \$40 million. If the required rate of return on the equity is 15% and that on the debt is 5%, calculate the company's cost of capital. (Assume the tax rate is 40%).
 - A. 9.8%
 - B. 10.2%
 - C. 11.8%
 - D. 12.2%

10. A project has the following cash flows: $C_0 = -100,000$; $C_1 = 50,000$; $C_2 = 150,000$; $C_3 = 100,000$. If the discount rate changes from 12% to 15%, what is the change in the NPV of the project (approximately)?
 - A. 12,750 increase
 - B. 12,750 decrease
 - C. 122,650 increase
 - D. 135,400 decrease

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11. Option to abandon a project is a:

- A. Call option
- B. Put option
- C. Stock option
- D. Swap

12. If the weak form of market efficiency holds then:

- I) Technical analysis is useless
 - II) Stock prices reflect information contained in past prices
 - III) Stock price changes follow a random walk
- A. I only
 - B. I and II only
 - C. I, II and III
 - D. I and III only

13. Firms can pay out cash to their shareholders in the following ways:

- I) Dividends
 - II) Share repurchases
 - III) Interest payments
- A. I only
 - B. II only
 - C. I and II only
 - D. III only

14. One key assumption of the Miller and Modigliani (MM) dividend irrelevance argument is that:

- A. Future stock prices are certain
- B. There are no capital gains taxes
- C. All investments are risk-free
- D. New shares are sold at a fair price

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15. If a firm permanently borrows \$100 million at an interest rate of 8%, what is the present value of the interest tax shield? (Assume that the tax rate is 30%)
- A. \$8.00 million
 - B. \$5.6 million
 - C. \$30 million
 - D. \$26.67 million
16. Risk shifting implies when faced with financial distress; managers of firms acting on behalf of their shareholders' interests will:
- A. Favor high risk, high return projects even if they have negative NPV
 - B. Refuse to invest in low risk, low return projects with positive NPVs
 - C. Delay the onset of bankruptcy as long as they can
 - D. All of the above
17. The pecking order theory of capital structure implies that:
- I) Risky firms will end up borrowing more
 - II) Firms prefer internal finance
 - III) Firms prefer debt to equity when external financing is required
- A. I only
 - B. II only
 - C. II and III only
 - D. III only
18. What are some of the possible consequences of financial distress?
- I) bondholders, who face the prospect of getting only part of their money back, are likely to want the company to take additional risks.
 - II) Equity investors would like the company to cut its dividend payments to conserve cash.
 - III) Equity investors would like the firm to shift toward riskier lines of business
- A. I only
 - B. II only
 - C. III only
 - D. I and II only

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19. If a firm borrows \$50 million for one year at an interest rate of 10%, what is the present value of the interest tax shield? Assume a 30% tax rate (the discount rate is equal to the cost of debt).

(Approximately)

- A. \$1.364 million
- B. \$1.5 million
- C. \$1.0 million
- D. \$4.545 million

20. The efficient portfolios:

- I) have only unique risk
 - II) provide highest returns for a given level of risk
 - III) provide the least risk for a given level of returns
 - IV) have no risk at all
- A. I only
 - B. II and III only
 - C. IV only
 - D. II only

二、問答題(2 大題，每題 10 分，共計 20 分)

簡答題請簡明扼要回答，每題務必不超過 15 行。

1. Since some countries have a lower cost of capital, there is a kind of famous trade between countries named Carry Trade. Explain how these carry trades made the Japanese yen markedly increasing against its most-traded counterparts after the worst earthquake on March 11, 2011.

2. **Explain** and **derive** Put-Call Parity by following portfolios:

Portfolio A: one European call option plus an amount of cash equal to Ke^{-rT} ;

Portfolio B: one European put option plus one share,

where K is the strike price, r is the risk free rate, and T is the time to maturity.