

國立中正大學

114 學年度碩士班招生考試

試題

[第3節]

科目名稱	財務管理
系所組別	財務金融學系

—作答注意事項—

※作答前請先核對「試題」、「試卷」與「准考證」之系所組別、科目名稱是否相符。

1. 預備鈴響時即可入場，但至考試開始鈴響前，不得翻閱試題，並不得書寫、畫記、作答。
2. 考試開始鈴響時，即可開始作答；考試結束鈴響畢，應即停止作答。
3. 入場後於考試開始 40 分鐘內不得離場。
4. 全部答題均須在試卷（答案卷）作答區內完成。
5. 試卷作答限用藍色或黑色筆（含鉛筆）書寫。
6. 試題須隨試卷繳還。

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Part A. Multiple Choice Questions (75 points, 3 points for each question. Please select the best answer.)

1. A bond is traded for \$1222 on the market. What is the yield-to-maturity?
A. 4.6% B. 5.9% C. 6.8% D. 7.6%
2. Which of the following statements is FALSE?
A. Bond ratings increase market liquidity through information transparency.
B. Investment-grade bonds are bonds with relatively low default risks.
C. A bond's rating depends on the bankruptcy risk and the bondholder's ability to claim the firm's assets.
D. The borrowing cost of debt is more expensive than equity because debtholders require compensation for taking default risk.
3. CCU bank loans require monthly payments with an effective annual rate of 6.43%. What is the APR on this auto loan:
A. 5.90% B. 6.25% C. 6.70% D. 6.11%
4. Which of the following statements is FALSE?
A. The dividend discount model is beneficial when evaluating a firm with a rapidly changing growth rate.
B. The growth rate of small and young firms is generally higher than mature firms.
C. The present value of a firm estimated by the dividend discount model could be low when investors ask for a high premium for taking risks.
D. The dividend discount model estimates firm value based on the forecast of future dividends.
5. Which of the following statements is FALSE?
A. Risk-averse investors do not like the volatility of asset returns.
B. The covariance would be positive if two stocks move in the same direction.
C. When the correlation coefficient is very close to zero, two stocks would co-move very closely.
D. Volatility is the square root of variance.
6. Which of the following statements is FALSE?
A. The market beta of a security is challenging to estimate because the results would be different if different periods of historical data were used.
B. Estimating beta based on the expectations of future correlations and volatilities is common practice.
C. In order to estimate, we need to know the volatility of market returns and the correlation between market return and asset return.
D. When the beta is larger than 1, the security price will move more drastically than the market price.

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7. CCU Biotech Co. is evaluating a project that requires \$80,000 in fixed assets and another \$20,000 in net working capital. The expected future sale is \$110,000, with associated costs of \$70,000. The project can run for 4-years. CCU Biotech uses straight-line depreciation to a zero book value over the life of the project. If the tax rate is 35%, what is the operating cash flow for this project?
A. \$9,542 B. \$16,854 C. \$24,435 D. \$33,000
8. Which of the following statements is FALSE?
A. A positive alpha could be due to a wrong proxy for the market portfolio.
B. The true market portfolio contains much more than just stocks, it includes bonds, real estate, art, precious metals, and other investment vehicles available.
C. If the proxy portfolio for the market is not highly correlated with the true market portfolio, the true market portfolio will not be on the efficient frontier.
D. As long as an asset is not traded on the market, it is difficult to include the asset in the proxy for the market portfolio.
9. Which of the following is FALSE regarding individual investor behavior?
A. Individual investors provide liquidity to the market.
B. A majority of individual investors overcome the behavioral bias when investing.
C. Employees tend to overinvest in their company's own stock.
D. Individual investors' portfolios consistently outperform the market averages.
10. The MM theory with taxes implies that firms should issue maximum debt. However, most companies would not do that because:
A. debt is more risky than equity.
B. bankruptcy is a disadvantage to debt.
C. the WACC increases with the debt-equity ratio.
D. the WACC decreases the debt-equity ratio.
11. If a firm substitutes a repurchase for a cash dividend, the primary difference will be an increase in the
A. earnings per share.
B. total amount received by investors.
C. nominal earnings of the firm.
D. the cash holdings of the firm.
12. Empirically, when do firms tend to call convertible bonds?
A. when the cost of equity is higher than the cost of debt.
B. when a company has financing needs.
C. when the conversion value is greater than the call price.
D. when the conversion value is less than the face value.

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13. The duration of a coupon bond is:
- A. not associated with the number of payments per period.
 - B. less than that of a zero coupon bond of equal maturity.
 - C. equal to the zero coupon bond of the same maturity.
 - D. equal to its time-to-maturity.
14. Last Month, you sold a futures contract on 5,000 boxes of mango at a settled price of \$16.59. Today, your contract closed at the daily settle price of \$16.62. What amount will you receive from the contract purchaser? Assume yesterday's settle price was \$16.66.
- A. \$79,930 B. -\$426 C. \$654 D. \$83,100
15. The T-Max Co. has sales of \$632,400, costs of \$422,500, depreciation of \$43,550, interest expense of \$18,540, and taxes of \$53,260. What is the amount of the operating cash flow?
- A. \$119,660 B. \$182,920 C. \$156,640 D. \$317,140
16. The EBIT of CCU Toy Comp is \$5,750. The fixed cost is \$50,000, the selling price per unit is \$13, and the total sales quantity is 11,500 units. The Depreciation is \$7,500. What is the variable cost per unit?
- A. \$6.75 B. \$8.25 C. \$7.75 D. \$7.50
17. You purchased 500 shares of stock at a price of \$42.72 per share. Over the last year, you have received a total dividend income of \$1,840. What is the dividend yield?
- A. 3.14% B. 8.61% C. 5.80% D. 7.92%
18. A growth-stock portfolio is best characterized as having a:
- A. high PE ratio as compared to the overall market.
 - B. lower risk premium than the overall market.
 - C. higher level of dividend pay ratio relative to the market.
 - D. relatively low market beta.
19. Assume you use several capital budgeting methods to evaluate two mutually exclusive projects. If there is a conflict in the indicated decision due to the IRR-based indicator, you should:
- A. accept the project that most methods agree with.
 - B. combine both projects into one larger project.
 - C. ignore the IRR and rely on the decision indicated by the NPV method.
 - D. base the final decision on the payback method.

20. You are considering buying a share of CCU-Biotech stock. The industry is quite risky, so you ask for a 14% return yearly. We already know that CCU-Biotech will pay a constant dividend of \$3.2 per share yearly. What is the maximum price you should pay for the stock?
A. \$21.04 B. \$22.86 C. \$33.67 D. \$37.29
21. The difference between a perpetuity and an annuity is:
A. perpetuity payments would change with the inflation rate.
B. perpetuity payments would be low when the market rate of interest is low.
C. perpetuity payments are variable, while annuity payments are constant.
D. perpetuity payments never cease.
22. Which of the following cases would increase the standard deviation of a portfolio?
A. an increase in the interest rate of U.S. Treasury bills.
B. one of two stocks related to the oil industry is replaced with a third stock that is unrelated to the oil industry.
C. the portfolio concentration in a pro-cyclical industry increases.
D. the weights of the various diverse securities become more evenly distributed.
23. The higher inventory turnover results in:
A. less time inventory items stay on the shelf.
B. a larger space is needed to store the inventory.
C. a longer cash flow cycle.
D. a greater amount of inventory held by a firm.
24. In a merger or acquisition, an asset should be acquired if it:
A. generates a positive NPV for the shareholders of the acquiring firm.
B. is not used efficiently by the holding firm.
C. is a firm in another industry which will diversify the firm.
D. requires a high level of cash payment compared to the equity exchange.
25. Which of the following is correct?
A. The Markowitz portfolio theory is the most widely used portfolio formation approach in the industry because it only requires the mean, variance, and covariance of assets.
B. If you find significant alpha using the CAPM model, then the market is not efficient.
C. Catastrophe Insurance contracts have a market beta larger than 1.
D. In a very efficient market, the trading volume should be low.

Part B. Problem Sets (25 Points)

Please answer the following questions based on the provided information:

- A. Assume that asset returns in the market are influenced by two common factors, F_1 and F_2 .
 - B. A risk-free asset exists with a risk-free rate r_f .
 - C. Asset X is a well-diversified mutual fund with abnormal returns α .
1. Write down the equation describing the relationship between individual asset returns and the common factors F_1 and F_2 . Explain the meaning of the symbols in the equation. (5 Points)
 2. Explain how to construct an arbitrage portfolio for asset X to earn the abnormal return α . (10 Points)
 3. How can the weights of the asset allocation in the arbitrage portfolio be determined in practice? (5 Points)
 4. If asset X is not a well-diversified mutual fund but a single asset with unique risk, how would this affect the arbitrage portfolio mentioned above? (Provide an explanation to receive full credit, 5 Points)