

# 國立中正大學

## 110 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, 2.5 points for each question. Please select the best answer.)

1. Which of the following is most correct?
  - a. If the expectations theory is correct, we could see inverted yield curves.
  - b. If a yield curve is inverted, short-term bonds have lower yields than long-term bonds.
  - c. A positive maturity risk premium increases the likelihood that a yield curve will be inverted.
  - d. None of the statements above is correct.
  
2. Assume that investors become increasingly risk averse, so that the market risk premium increases. Also, assume that the risk-free rate and expected inflation remain the same. Which of the following is most likely to occur?
  - a. The required rate of return will decline for stocks that have betas less than 1.0.
  - b. The required rate of return on the market,  $k_m$ , will remain the same.
  - c. The required rate of return for each stock in the market will increase by an amount equal to the increase in the market risk premium.
  - d. None of the statements above is correct.
  
3. Which of the following statements is most correct?
  - a. An investment that compounds interest semiannually, and has a nominal rate of 10 percent, will have an effective rate less than 10 percent.
  - b. The present value of a 3-year \$100 annuity due is less than the present value of a 3-year \$100 ordinary annuity.
  - c. The proportion of the payment of a fully amortized loan that goes toward interest declines over time.
  - d. None of the statements above is correct.
  
4. Which of the following statements is most correct?
  - a. A 10-year 10 percent coupon bond has less reinvestment rate risk than a 10-year 5 percent coupon bond (assuming all else equal).
  - b. The total return on a bond for a given year arises from both the coupon interest payments received for the year and the change in the value of the bond from the beginning to the end of the year.
  - c. The price of a 20-year 10 percent bond is less sensitive to changes in interest rates (that is, has lower interest rate risk) than the price of a 5-year 10 percent bond.
  - d. A \$1,000 bond with \$100 annual interest payments with five years to maturity (not expected to default) would sell for a discount if interest rates were below 9 percent and would sell for a premium if interest rates were greater than 11 percent.

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5. Which of the following statements is most correct?
- a. If a stock's beta increased but its growth rate remained the same, then the new equilibrium price of the stock will be higher (assuming dividends continue to grow at the constant growth rate).
  - b. Market efficiency says that the actual realized returns on all stocks will be equal to the expected rates of return.
  - c. An implication of the semistrong form of the efficient markets hypothesis is that you cannot consistently benefit from trading on information reported in The Wall Street Journal.
  - d. All of the statements above are correct.
6. The ABC Company will produce 55,000 widgets next year. Variable costs will equal 40 percent of sales, while fixed costs will total \$110,000. At what price must each widget be sold for the company to achieve an EBIT of \$95,000?
- a. \$2.00
  - b. \$4.45
  - c. \$5.00
  - d. \$6.21
7. Which of the following statements is most correct?
- a. The ability of firms to engage in socially beneficial projects that involve voluntary costs is constrained by competition and the need of firms to attract capital at low cost.
  - b. The actions that maximize a firm's stock price are inconsistent with maximizing social welfare.
  - c. The concepts of social responsibility and ethical responsibility on the part of corporations are completely different and neither is relevant in maximizing stock price.
  - d. In a competitive market, if a group of firms do not spend resources making social welfare improvements, but another group does, in general, this will not affect the second group's ability to attract capital.
8. Which of the following statements is most correct?
- a. Actions that increase net income will always increase net cash flow.
  - b. One way to increase EVA is to maintain the same operating income with less capital.
  - c. One drawback of EVA as a performance measure is that it mistakenly assumes that equity capital is free.
  - d. Statements a and b are correct.

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9. Project A has an internal rate of return (IRR) of 15 percent. Project B has an IRR of 14 percent. Both projects have a cost of capital of 12 percent. Which of the following statements is most correct?
- Both projects have a positive net present value (NPV).
  - Project A must have a higher NPV than Project B.
  - If the cost of capital were less than 12 percent, Project B would have a higher IRR than Project A.
  - Statements a and c are correct.
10. Which of the following is not a cash flow that results from the decision to accept a project?
- Changes in net operating working capital.
  - Shipping and installation costs.
  - Sunk costs.
  - Opportunity costs.
11. Which of the following will not increase the value of a real option?
- An increase in the time remaining until the real option must be exercised.
  - An increase in the volatility of the underlying source of risk.
  - An increase in the risk-free rate.
  - An increase in the cost of exercising the real option.
12. Which of the following statements is most correct?
- The bird-in-the-hand theory argues that investors prefer dividends because dividends are taxed more favorably than capital gains.
  - Stock repurchases increase the number of outstanding shares.
  - The clientele effect can explain why companies tend to vary their dividends a lot on a year-to-year basis.
  - None of the statements above is correct.
13. The market value of XYZ Company's equity is \$15 million and the market value of its debt is \$5 million. If the required rate of return on the equity is 20% and that on its debt is 8%, calculate the company's cost of capital. (Assume no taxes.)
- 20%
  - 17%
  - 14%
  - 11%

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14. Which of the following statements is most correct?
- a. If the underlying asset does not pay a dividend, it does not make sense to exercise a call option prior to its expiration date.
  - b. Call options generally sell at a price less than their exercise value.
  - c. If a stock becomes riskier (more volatile), call options on the stock are likely to decline in value.
  - d. None of the statements above is correct.
15. Analyzing days sales outstanding (DSO) and the aging schedule are two common methods for monitoring receivables. However, they can provide erroneous signals to credit managers when
- a. Customers' payments patterns are changing.
  - b. Sales fluctuate seasonally.
  - c. Some customers take the discount and others do not.
  - d. None of the statements above is correct.
16. The cash flow from a project is computed as the:
- a. net operating cash flow generated by the project minus sunk costs.
  - b. the incremental operating cash flow plus the after tax salvage value of the project.
  - c. net income generated by the project, plus the annual depreciation expense.
  - d. sum of the incremental operating cash flow, capital spending, and net working capital cash flows incurred by the project.
17. CCU has a new project with projected real cash flows of \$15,000, \$16,000, and \$20,000 for Years 1 to 3, respectively. The nominal discount rate is 14% and the inflation rate is 3%. What is the net present value of the project if the initial cost is \$28,000?
- a. \$13365.07
  - b. \$14785.36
  - c. \$10,508.70
  - d. \$9,569.56
18. Which of the following capital budgeting methods tend to be biased towards short-term projects?
- a. profitability index and internal rate of return
  - b. discounted payback and payback
  - c. net present value and payback
  - d. payback and profitability index

19. The modified internal rate of return:
- is used as the discount rate for all NPV calculations.
  - applies only to profitability calculations.
  - is computed by combining cash flows until only one change in sign remains.
  - is used to make accept/reject decisions when no discount rate can be assigned.
20. Which one of the following statements is correct?
- An increase in the required initial fixed assets increases the accounting profit break-even point.
  - If a firm needs to lower the break-even points it should lower the sales price.
  - The NPV is zero at the accounting break-even point.
  - An increase in the tax rate will increase the accounting break-even point.
21. The real option to expand in your project will tend to:
- extend the duration of a project but not affect the project's NPV.
  - increase the cash flows but decrease the project's NPV.
  - increase the NPV of a project.
  - have no effect on either a project's cash flows or its net present value.
22. Which of the following best describes the increase of risk to shareholders when using financial leverage?
- higher EPS as EBIT increases.
  - a higher variability of EPS with debt than with all-equity financing.
  - increased use of homemade leverage.
  - decreasing earnings as EBIT increases.
23. MM Proposition I with taxes is based on the concept that:
- the cost of equity increases as the debt-equity ratio of a firm increases.
  - the capital structure of the firm does not matter because investors can use homemade leverage.
  - the firm is better off with debt based on the weighted average cost of capital.
  - the value of the firm increases as total debt increases because of the interest tax shield.
24. According to the pecking-order theory, a firm's leverage ratio is determined by:
- the firm's financing needs.
  - the value of the tax benefit of debt.
  - equating the tax benefit of debt to the financial distress costs of debt.
  - the profitability of the firm.

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25. Assume a merger of two levered firms produced no synergy. In this case, the:
- acquiring firm shareholders would neither gain nor lose any value.
  - bondholders probably benefit at shareholders' expense.
  - diversification effect would only benefit the acquired firm's shareholders.
  - combined shareholders would benefit at the expense of all debt holders.
26. Company BID has a market value of \$6000 with 120 shares outstanding. Company TAR has a market value of \$1,200 with 100 shares outstanding. BID is acquiring TAR by exchanging 80 of its new shares for all 100 of TAR's shares. What is the cost of the merger to BID's stockholders if the merger creates \$500 of synergy?
- \$1,700.00
  - \$1,225.00
  - \$1,540.00
  - \$1,200.00
27. The expected return of the CCU-BioTech Company is 15%. The dividend is expected to increase at 3.5% per year. The current market price of CCU-BioTech's stock is \$40. What is the value of the next dividend?
- \$4.60
  - \$4.76
  - \$3.78
  - \$5.12
28. The risk premium for an individual security is computed by:
- adding the risk-free rate to the security's expected return.
  - dividing the market risk premium by the quantity  $(1 + \text{Beta})$ .
  - multiplying the security's beta by the market risk premium.
  - dividing the market risk premium by the beta of the security.
29. A stock with an actual return that lies above the security market line has:
- more systematic risk than the overall market.
  - yielded a higher return than expected for the level of risk assumed.
  - more risk than warranted based on the realized rate of return.
  - less systematic risk than the overall market.
30. All else held constant, which one of the following would increase the WACC of a leveraged firm?
- an increase in the weight of debt
  - a decrease in a firm's equity beta
  - a decrease in the dividend growth rate

d. a decrease in the tax rate

Part B: Problem sets (25 points)

1. Assume that interest rate parity holds and that 90-day risk-free securities yield 5 percent in the United States and 5.3 percent in Germany. In the spot market, 1 euro equals \$0.80 dollar.
  - a. What is the 90-day forward rate?(9 points)
  - b. Is the 90-day forward rate trading at a premium or discount relative to the spot rate?(3 points)

2. Consider the following information (Round your final answer to 2 decimal places):

State of Economy	Probability of the States	Return on stock A	Return on Stock B
I	0.5	30%	-20%
II	0.5	-20%	30%

- a. Assuming that all investors are rational and risk-averse, which of the stock would have higher current market price given the above table? (No points without explanation.) (3 points)
- b. Following the previous question, now we know that the expected market return is 15% in state I and -15% in state II, which of the stock would have higher current market price in equilibrium? Why? (5 points)
- c. Based on your answer in question (b), as a risk-averse investor, how do you measure the risk of a stock? (5 points)