國立中正大學
109 學年度碩士班招生考試
試 題
[第 2 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。

Part A. Multiple Choice Questions (75 points, 2.5 points for each question. Please select the best answer.)

1. The single-factor APT model that resembles the market model uses _________ as the single factor.

A. arbitrage fees

B. GNP

C. the inflation rate

D. the market risk premium

2. Which one of the following statements concerning the standard deviation is correct?

A. The standard deviation is a measure of total return.

B. The higher the standard deviation, the higher the expected return.

C. The standard deviation varies in direct relation to increases in dividend yield.

D. The higher the standard deviation, the lower the risk.

3. The interest tax shield is a key reason why:

A. the required rate of return on assets rises when debt is added to the capital structure.

B. the value of an unlevered firm is equal to the value of a levered firm.

C. the net cost of debt to a firm is generally less than the cost of equity.

D. the cost of debt is equal to the cost of equity for a levered firm.

4. For a firm with a constant payout ratio, the dividend growth rate can be estimated as:

A. Return on retained earnings × Retention ratio.

B. Payout ratio × Return on equity.

C. Return on assets × Retention ratio.

D. Return on equity × (1 + Retention ratio).

5. If a stock portfolio is well diversified, then the portfolio variance:

A. will equal the variance of the most volatile stock in the portfolio.

B. may be less than the variance of the least risky stock in the portfolio.

C. must be equal to or greater than the variance of the least risky stock in the portfolio.

D. will be a weighted average of the variances of the individual securities in the portfolio.

6. A firm has 12,000 shares of stock outstanding, sales of $638,100, a profit margin of 8.2 percent, a tax rate of 35 percent, a price-earnings ratio of 11.3, and a book value per share of $7.98. What is the market-to-book ratio?

A. 6.08　　B. 5.42　　C. 5.16　　D. 6.17

7. You are comparing two investment options, each of which will provide $15,000 of total income. Option A pays five annual payments starting with $5,000 the first year followed by four annual payments of $2,500 each. Option B pays five annual payments of $3,000 each. Which one of the following statements is correct given these two investment options?
A. Both options are of equal value today.
B. Given a positive rate of return, Option A is worth more today than Option B.
C. Option B has a higher present value than Option A given a positive rate of return.
D. Option B has a lower present value than Option A given a zero rate of return.

8. You would be making a wise decision if you chose to:
A. base decisions regarding investments on effective rates and base decisions regarding loans on annual percentage rates.
B. assume all loans and investments are based on simple interest.
C. accept the loan with the lower effective annual rate rather than the loan with the lower annual percentage rate.
D.invest in an account paying 6 percent, compounded quarterly, rather than an account paying 6 percent, compounded monthly.

9. Assume CCU Ltd. is similar to its industry with one exception, it has low fixed costs relative to all other firms in that industry. Given this, you should expect CCU Ltd.:
A. to have a lower beta than its industry.
B. the same beta as the industry but a lower beta than the other firms in the industry.
C. a higher beta than its industry.
D. a higher beta than the industry or the firms within that industry.

10. Matt is analyzing two mutually exclusive projects of similar size. Both projects have 5-year lives. Project A has an NPV of $18,389, a payback period of 2.38 years, an IRR of 15.9 percent, and a discount rate of 13.6 percent. Project B has an NPV of $19,748, a payback period of 2.69 years, an IRR of 13.4 percent, and a discount rate of 12.8 percent. He can afford to fund either project, but not both. Matt should accept:
A. Project A because of its payback period.
B. both projects as they both have positive NPVs.
C. Project B based on its NPV.
D. Project A because of its IRR.

11. Break-even analysis:
   A. based on accounting profits is preferable to the financial break-even method.
   B. identifies the optimal maximum level of output for any given level of fixed assets.
   C. ignores both taxes and interest when computing the financial break-even point.
   D. is unaffected by the sources of funds used to finance a project.

12. Which one of these bonds is the most interest-rate sensitive?
   A. 5-year zero coupon bond
   B. 10-year zero coupon bond
   C. 5-year, 6 percent, annual coupon bond
   D. 10-year, 6 percent, semiannual coupon bond

13. Which one of these factors generally has the greatest impact on a firm's PE ratio?
   A. required rate of return
   B. current dividends
   C. future opportunities
   D. the overall risk level of the current firm

14. 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. low level of systematic risk and a high level of systematic risk.
   D. relatively high value for firm-specific risks.

15. CCU Enterprises has a 15-year bond issue outstanding with a coupon of 8 percent. The bond is currently priced at $923.60 and has a par value of $1,000. Interest is paid semiannually. What is the yield to maturity?
   A. 8.67% B. 9.93% C. 9.16% D. 8.93%

16. U.S. dollars deposited in a German bank are called:
   A. Deutsche dollars.
   B. American depositing receipts.
   C. Eurodollars.
   D. mark dollars.

17. Venture capitalists provide start-up companies:
A. all the money they will need up front.
B. enough money at each stage so that they can reach the next stage or major checkpoint.
C. assistance in managing the initial public offering (IPO).
D. funding intended to buy-out the company's founders.

18. Mr. Tsai has $100 income this year and zero income next year. The market interest rate is 10% per year. Mr. Tsai also has an investment opportunity—having the same risk as the market in which he can invest $50 this year and receive $80 next year. Suppose Mr. Tsai consumes $50 this year and invests in the project. What is the NPV of the investment opportunity?
A. $0　B.$5　C.$22.73　D.$ 12.33

19. A bond with duration of 10.0 years has a yield to maturity of 10.0%. This bond's volatility is:
A. 9.09%　B.6.80%　C.14.6%　D.10.00%

20. One can estimate the dividend growth rate for a stable firm as:
A. plow-back rate/the return on equity (ROE).
B. plow-back rate - the return on equity (ROE).
C. plow-back rate + the return on equity (ROE).
D. plow-back rate × the return on equity (ROE).

21. Accountants do not depreciate investment in net working capital because:
A. it is not a cash flow.
B. it is recovered during—or at the end of—the project, thus is not a depreciating asset.
C. it is a sunk cost.
D. working capital appears on the balance sheet, not the income statement.

22. If the standard deviation of annual returns is 19.8% and the number of years of observation is 107, what is the standard error?
A. 4.23%　B.1.91%　C.0.47%　D.19.8%

23. If a stock were overpriced, it would plot:
A. above the security market line.
B. below the security market line.
C. on the security market line.
D. on the Y-axis.

24. A firm's cost of equity can be estimated using the:
   I) discounted cash-flow (DCF) approach;
   II) capital asset pricing model (CAPM);
   III) arbitrage pricing theory (APT)

A. I and II　　B.I & III　　C.II & III　　D.I, II & III

25. Economic rents are returns that:

A. exceed the opportunity cost of capital.
B. equal the opportunity cost of the capital.
C. are less than the opportunity cost of capital.
D. are not related to the opportunity cost of capital.

26. The following are agency problems associated with capital budgeting:
   I) reduced effort
   II) perks or private benefits
   III) empire building
   IV) entrenching investments
   V) avoiding risks

A. I, II and V only　　B.I, II, and IV only　　C.I, II, III, and IV only　　D.I, II, III, IV, and V

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

A. future stock prices are certain.
B. firms have an adequate supply of Treasury shares.
C. there exists a risk-free asset.
D. new shares are sold at a fair price.

28. Examples of shark-repellent charter amendments include:
   I) supermajority;
   II) waiting period;
   III) restricted voting rights;
   IV) staggered board

A. I only　　B.I, II and III only　　C.I and II only　　D.I, II, III, and IV

29. Factoring refers to:

A. determining the aging schedule of the firm's accounts receivable.

B. the sale of a firm's accounts receivable to another firm.

C. the determination of the average collection period.

D. scoring a customer based on the 5 C's of credit.

30. What does an equity option's delta reflect?

A. The volatility of the underlying stock price

B. The dividends paid to the underlying stockholders

C. The number of shares needed to replicate one call option

D. The time to expiration

Part B. Problem Sets (25 Points)

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

State of Economy	Probability of State of Economic	Rate of Return if State Occurs		
		Stock A	Stock B	Market Index
Good	0.6	0.1	0.14	0.2
Poor	0.4	0.16	0.02	-0.12

a. What is the expected return and variance of a portfolio invested 20% each in A and B, and 60% in the market index? (7 points)

b. Following (a), what is the portfolio beta (market exposure) of the portfolio constructed in (a)? (6 points)

2. A company forecasts the following free cash flows (shown in millions of dollars). If the weighted average cost of capital is 13 percent and the free cash flows are expected to continue growing at the same rate after Year 3,

a. What is the horizon, or terminal, value? (6 points)

b. What is the current value of operations, to the nearest million? (6 points)

Year:	1	2	3
Free cash flow:	-$20	$40	$42