國立成功大學
110學年度碩士班招生考試試題

編　號：237

系　所：財務金融研究所

科　目：財務管理

日　期：0203

節　次：第 2 節

備　註：可使用計算機

※ 考生請注意：本試題可使用計算機。　請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

Section A: Multiple Choice Questions (80 marks, 4 points each)

1. Safeco Company and Risco Inc are identical in size and capital structure. However, the riskiness of their assets and cash flows are somewhat different, resulting in Safeco having a WACC of 10% and Risco a WACC of 12%. Safeco is considering Project X, which has an IRR of 10.5% and is of the same risk as a typical Safeco project. Risco is considering Project Y, which has an IRR of 11.5% and is of the same risk as a typical Risco project. Now assume that the two companies merge and form a new company, Safeco/Risco Inc. Moreover, the new company's market risk is an average of the pre-merger companies' market risks, and the merger has no impact on either the cash flows or the risks of Projects X and Y. Which of the following statements is CORRECT?
   a. If the firm evaluates these projects and all other projects at the new overall corporate WACC, it will probably become riskier over time.
   b. If evaluated using the correct post-merger WACC, Project X would have a negative NPV.
   c. After the merger, Safeco/Risco would have a corporate WACC of 11%. Therefore, it should reject Project X but accept Project Y.
   d. Safeco/Risco's WACC, as a result of the merger, would be 10%.
   e. After the merger, Safeco/Risco should select Project Y but reject Project X. If the firm does this, its corporate WACC will fall to 10.5%.

2. Which of the following statements is CORRECT? Assume that the project being considered has normal cash flows, with one cash outflow at t = 0 followed by a series of positive cash flows.
   a. A project's MIRR is always greater than its regular IRR.
   b. A project's MIRR is always less than its regular IRR.
   c. If a project's IRR is greater than its WACC, then its MIRR will be greater than the IRR.
   d. To find a project's MIRR, we compound cash inflows at the regular IRR and then find the discount rate that causes the PV of the terminal value to equal the initial cost.
   e. To find a project's MIRR, the textbook procedure compounds cash inflows at the WACC and then finds the discount rate that causes the PV of the terminal value to equal the initial cost.

3. Desai Industries is analyzing an average-risk project, and the following data have been developed. Unit sales will be constant, but the sales price should increase with inflation. Fixed costs will also be constant, but variable costs should rise with inflation. The project should last for 3 years, it will be depreciated on a straight-line basis, and there will be no salvage value. No change in net operating working capital would be required. This is just one of many projects for the firm, so any losses on this project can be used to offset gains on other firm projects. What is the project's expected NPV?

WACC	10.0%
Net investment cost (depreciable basis)	$200,000
Units sold	50,000
Average price per unit, Year 1	$25.00
Fixed oper. costs excl. depreciation (constant)	$150,000
Variable oper. cost/unit, Year 1	$20.20
Annual depreciation rate	33.333%
Expected inflation rate per year	5.00%
Tax rate	40.0%

a. $15,925
b. $16,764
c. $17,646
d. $18,528
e. $19,455

4. Wahal Corporation uses the NPV method when selecting projects, and it does a reasonably good job of estimating projects' sales and costs. However, it never considers any real options that might be associated with projects. Which of the following statements is most likely to describe its situation?

a. Its estimated capital budget is probably too small, because projects' NPVs are often larger when real options are taken into account.
b. Its estimated capital budget is probably too large due to its failure to consider abandonment and growth options.
c. Failing to consider abandonment and flexibility options probably makes the optimal capital budget too large, but failing to consider growth and timing options probably makes the optimal capital budget too small, so it is unclear what impact the failure to consider real options has on the overall capital budget.
d. Failing to consider abandonment and flexibility options probably makes the optimal capital budget too small, but failing to consider growth and timing options probably makes the optimal capital budget too large, so it is unclear what impact not considering real options has on the overall capital budget.
e. Real options should not have any effect on the size of the optimal capital budget.

5. Which of the following statements is CORRECT?
   a. Generally, debt ratios do not vary much among different industries, although they do vary among firms within a given industry.
   b. Electric utilities generally have very high common equity ratios because their revenues are more volatile than those of firms in most other industries.
   c. Airline companies tend to have very volatile earnings, and as a result they generally have high target debt-to-equity ratios.
   d. Wide variations in capital structures exist both between industries and among individual firms within given industries. These differences are caused by differing business risks and also managerial attitudes.
   e. Since most stocks sell at or very close to their book values, book value capital structures are typically adequate for use in estimating firms' weighted average costs of capital.

6. Grullon Co. is considering a 7-for-3 stock split. The current stock price is $75.00 per share, and the firm believes that its total market value would increase by 5% as a result of the improved liquidity that should follow the split. What is the stock's expected price following the split?
   a. $32.06
   b. $33.75
   c. $35.44
   d. $37.21
   e. $39.07

7. A firm buys on terms of 2/8, net 45 days, it does not take discounts, and it actually pays after 58 days. What is the <u>effective annual percentage cost</u> of its non-free trade credit? (Use a 365-day year.)
   a. 14.34%
   b. 15.10%
   c. 15.89%
   d. 16.69%
   e. 17.52%

8. A riskless hedge can best be defined as
   a. A situation in which aggregate risk can be reduced by derivatives transactions between two parties.
   b. A hedge in which an investor buys a stock and simultaneously sells a call option on that stock and ends up with a riskless position.
   c. Standardized contracts that are traded on exchanges and are "marked to market" daily, but where physical delivery of the underlying asset is virtually never taken.
   d. Two parties agree to exchange obligations to make specified payment streams.
   e. Simultaneously buying and selling a call option with the same exercise price.

9. Suppose in the spot market 1 U.S. dollar equals 1.75 Canadian dollars. 6-month Canadian securities have an annualized return of 6% (and thus a 6-month periodic return of 3%). 6-month U.S. securities have an annualized return of 6.5% and a periodic return of 3.25%. If interest rate parity holds, what is the U.S. dollar-Canadian dollar exchange rate in the 180-day forward market? In other words, how many Canadian dollars are required to purchase one U.S. dollar in the 180-day forward market?
   a. 1.2727
   b. 1.4141
   c. 1.5712
   d. 1.7458
   e. 1.9203

10. Which of the following statements is CORRECT?
   a. The New York Stock Exchange is an auction market, and it has a physical location.
   b. Home mortgage loans are traded in the money market.
   c. If an investor sells shares of stock through a broker, then it would be a primary market transaction.
   d. Capital markets deal only with common stocks and other equity securities.
   e. While the distinctions are blurring, investment banks generally specialize in lending money, whereas commercial banks generally help companies raise capital from other parties.

11. Anacott Steel is acquiring Terafly Incorporated. Terafly is expected to provide Anacott with operating cash flows of $12, $21, $16, and $9 million over the next four years, respectively. In addition, the horizon value of all remaining cash flows at the end of Year 4 is estimated at $18 million. The merger will cost Anacott $45.0 million today. If the value of the merger is estimated at $9.00 per share and Anacott has 1,000,000 shares outstanding, what equity discount rate must the firm be using to value this acquisition?

a. 11.63%
b. 12.25%
c. 12.89%
d. 13.57%
e. 14.25%

12. Ackert Company's last dividend was $1.55. The dividend growth rate is expected to be constant at 1.5% for 2 years, after which dividends are expected to grow at a rate of 8.0% forever. The firm's required return (r_s) is 12.0%. What is the best estimate of the current stock price?
a. $37.05
b. $38.16
c. $39.30
d. $40.48
e. $41.70

13. A 10-year bond pays an annual coupon, its YTM is 8%, and it currently trades at a premium. Which of the following statements is CORRECT?
a. The bond's current yield is less than 8%.
b. If the yield to maturity remains at 8%, then the bond's price will decline over the next year.
c. The bond's coupon rate is less than 8%.
d. If the yield to maturity increases, then the bond's price will increase.
e. If the yield to maturity remains at 8%, then the bond's price will remain constant over the next year.

14. Which of the following statements is CORRECT?
a. If Mutual Fund A held equal amounts of 100 stocks, each of which had a beta of 1.0, and Mutual Fund B held equal amounts of 10 stocks with betas of 1.0, then the two mutual funds would both have betas of 1.0. Thus, they would be equally risky from an investor's standpoint, assuming the investor's only asset is one or the other of the mutual funds.
b. If investors become more risk averse but r_{RF} does not change, then the required rate of return on high-beta stocks will rise and the required return on low-beta stocks will decline, but the required return on an average-risk stock will not change.
c. An investor who holds just one stock will generally be exposed to more risk than an investor who holds a portfolio of stocks, assuming the stocks are all equally risky. Since the holder of the 1-stock portfolio is exposed to more risk, he or she can expect to earn a higher rate of return to compensate for the greater risk.

d. There is no reason to think that the slope of the yield curve would have any effect on the slope of the SML.

e. Assume that the required rate of return on the market, r_M, is given and fixed at 10%. If the yield curve were upward sloping, then the Security Market Line (SML) would have a steeper slope if 1-year Treasury securities were used as the risk-free rate than if 30-year Treasury bonds were used for r_{RF}.

15. Which of the following statements is CORRECT?

a. The higher the maturity risk premium, the higher the probability that the yield curve will be inverted.
b. The most likely explanation for an inverted yield curve is that investors expect inflation to increase.
c. The most likely explanation for an inverted yield curve is that investors expect inflation to decrease.
d. If the yield curve is inverted, short-term bonds have lower yields than long-term bonds.
e. Inverted yield curves can exist for Treasury bonds, but because of default premiums, the corporate yield curve can never be inverted.

16. Suppose a U.S. firm buys $200,000 worth of television tubes from a Mexican manufacturer for delivery in 60 days with payment to be made in 90 days (30 days after the goods are received). The rising U.S. deficit has caused the dollar to depreciate against the peso recently. The current exchange rate is 5.50 pesos per U.S. dollar. The 90-day forward rate is 5.45 pesos/dollar. The firm goes into the forward market today and buys enough Mexican pesos at the 90-day forward rate to completely cover its trade obligation. Assume the spot rate in 90 days is 5.30 Mexican pesos per U.S. dollar. How much in U.S. dollars did the firm save by eliminating its foreign exchange currency risk with its forward market hedge?

a. $4,897.59
b. $5,155.36
c. $5,426.69
d. $5,712.31
e. $5,997.92

17. Which of the following bank accounts has the <u>highest</u> effective annual return?

a. An account that pays 8% nominal interest with monthly compounding.
b. An account that pays 8% nominal interest with annual compounding.
c. An account that pays 7% nominal interest with daily (365-day) compounding.
d. An account that pays 7% nominal interest with monthly compounding.
e. An account that pays 8% nominal interest with daily (365-day) compounding.

18. Walter Industries' current ratio is 0.5. Considered alone, which of the following actions would increase the company's current ratio?
    a. Borrow using short-term notes payable and use the cash to increase inventories.
    b. Use cash to reduce accruals.
    c. Use cash to reduce accounts payable.
    d. Use cash to reduce short-term notes payable.
    e. Use cash to reduce long-term bonds outstanding.

19. Which of the following statements is CORRECT?
    a. Most rapidly growing companies have positive free cash flows because cash flows from existing operations generally exceed fixed asset purchases and changes to net operating working capital.
    b. Changes in working capital have no effect on free cash flow.
    c. Free cash flow (FCF) is defined as follows: FCF =EBIT(1 - T) + Depreciation - Capital expenditures required to sustain operations - Required changes in net operating working capital.
    d. Free cash flow (FCF) is defined as follows: FCF = EBIT(1 - T) + Capital expenditures.
    e. Managers should be less concerned with free cash flow than with accounting net income. Accounting net income is the "bottom line" and represents how much the firm can distribute to all its investors--both creditors and stockholders.

20. Which of the following statements is NOT CORRECT?
    a. When a corporation's shares are owned by a few individuals, we say that the firm is "closely, or privately, held."
    b. "Going public" establishes a firm's true intrinsic value and ensures that a liquid market will always exist for the firm's shares.
    c. The stock of publicly owned companies must generally be registered with and reported to a regulatory agency such as the SEC.
    d. When stock in a closely held corporation is offered to the public for the first time, the transaction is called "going public, or an IPO," and the market for such stock is called the new issue or IPO market.
    e. It is possible for a firm to go public and yet not raise any additional new capital for the firm itself.

Section B: Essay Questions (20 marks)

1. How do carrybacks and carryforwards affect the tax benefits of risk management? Please provide your answer in English ONLY **(10 marks)**

2. Explain whether or not an investor should expect all of his or her investments to have zero net present values in an efficient market. Please provide your answer in English ONLY **(10 marks)**