國立成功大學 105 學年度碩士班招生考試試題

系　　所：財務金融研究所

考試科目：財務管理

考試日期：0228，節次：2

※ 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. Dabney Electronics currently has no debt. Its operating income is $20 million and its tax rate is 40 percent. It pays out all of its net income as dividends and has a zero growth rate. The current stock price is $40 per share, and it has 2.5 million shares of stock outstanding. If it moves to a capital structure that has 40 percent debt and 60 percent equity (based on market values), its investment bankers believe its weighted average cost of capital would be 10 percent. What would its stock price be if it changes to the new capital structure?

a. $48
b. $50
c. $52
d. $54
e. $60

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, what is the Year 0 value of operations, to the nearest million?

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

a. $382 million
b. $425 million
c. $460 million
d. $475 million
e. $488 million

3. Florida Enterprises is considering issuing a 10-year convertible bond that will be priced at its $1,000 par value. The bonds have an 8.0 percent annual coupon rate, and each bond can be converted into 20 shares of common stock. The stock currently sells at $40 a share, has an expected dividend in the coming year of $5, and has an expected constant growth rate of 5.0 percent. What is the estimated floor price of the convertible at the end of Year 3 if the required rate of return on a similar straight-debt issue is 10.0 percent?

a. $ 902.63
b. $ 908.30
c. $ 926.10
d. $ 988.47
e. $1,000.00

4. Which of the following statements about interest rate and reinvestment rate risk is correct?

a. Variable, or floating rate, securities have a high degree of interest rate (price) risk.
b. Price risk occurs because fixed-rate debt securities lose value when interest rates rise, while reinvestment rate risk is the risk of earning less than expected when interest payments or debt principal are reinvested.
c. Price risk can be eliminated by purchasing zero coupon bonds.
d. Reinvestment rate risk can be eliminated by purchasing variable, or floating, rate bonds.
e. All of the statements above are correct.

5. Volunteer Pizza, a regional pizza chain, is considering purchasing a smaller chain, Eastern Pizza, which is currently financed with 20 percent debt at a cost of 8%. American's analysts project that the merger will result in incremental free cash flows and interest tax savings of \$2 million in Year 1, \$4 million in Year 2, \$5 million in Year 3, and \$117 million in Year 4. (The Year 4 cash flow includes a horizon value of \$107 million.) The acquisition would be made immediately, if it is undertaken. Eastern's pre-merger beta is estimated to be 2.0, and its post-merger tax rate would be 34 percent. The risk-free rate is 8 percent, and the market risk premium is 4 percent. What is the appropriate discount rate for valuing the acquisition?

a. 12.0%
b. 12.8%
c. 13.3%
d. 14.4%
e. 16.9%

6. Swenser Corporation arranged a two-year, \$1,000,000 loan to fund a foreign project. The loan is denominated in Mexican pesos, carries a 10 percent nominal rate, and requires equal semiannual payments. The exchange rate at the time of the loan was 5.75 pesos per dollar but immediately dropped to 5.10 (pesos per dollars) before the first payment came due. The loan carried no exchange rate protection and was not hedged by Swenser in the foreign exchange market. Thus, Swenser must convert U.S. funds to Mexican pesos to make its payments. If the exchange rate remains at 5.10 pesos per dollar through the end of the loan period, what effective interest rate will Swenser end up paying on the foreign loan?

a. 21.79%
b. 17.44%
c. 10.36%
d. 11.50%
e. 20.00%

7. Which of the following statements about a not-for-profit firm's fund capital is most correct?

a. Fund capital is equivalent to equity capital in investor-owned firms.
b. The sole source of fund capital is the excess of revenues over expenses.
c. Fund capital, like equity capital, has an opportunity cost associated with it.
d. Statements a and c are correct.
e. Statements a, b, and c are correct.

8. Which of the following statements is most correct?

a. If the returns from two stocks are perfectly positively correlated (i.e., the correlation coefficient is +1) and the two stocks have equal variance, an equally weighted portfolio of the two stocks will have a variance that is less than that of the individual stocks.
b. If a stock has a negative beta, its expected return must be negative.
c. According to the CAPM, stocks with higher standard deviations of returns will have higher expected returns.
d. A portfolio with a large number of randomly selected stocks will have less market risk than a single stock which has a beta equal to 0.5.
e. None of the statements above is correct.

9. Grant Corporation's stock is selling for $40 in the market. The company's beta is 0.8, the market risk premium is 6 percent, and the risk-free rate is 9 percent. The previous dividend was $2 (i.e., D_0 = $2) and dividends are expected to grow at a constant rate. What is the growth rate for this stock?

a. 5.52%
b. 5.00%
c. 13.80%
d. 8.80%
e. 8.38%

10. The Textbook Production Company has been hit hard due to increased competition. The company's analysts predict that earnings (and dividends) will decline at a rate of 5 percent annually forever. Assume that r_s = 11 percent and D_0 = $2.00. What will be the price of the company's stock three years from now?

a. $27.17
b. $ 6.23
c. $28.50
d. $10.18
e. $20.63

11. A money manager is managing the account of a large investor. The investor holds the following stocks:

Stock	*Amount Invested*	*Estimated Beta*
A	$2,000,000	0.80
B	5,000,000	1.10
C	3,000,000	1.40
D	5,000,000	????

The portfolio's required rate of return is 17 percent. The risk-free rate, r_{RF}, is 7 percent and the return on the market, r_M, is 14 percent. What is Stock D's estimated beta?

a. 1.256
b. 1.389
c. 1.429
d. 2.026
e. 2.154

12. Steaks Galore needs to arrange financing for its expansion program. One bank offers to lend the required $1,000,000 on a loan that requires interest to be paid at the end of each quarter. The quoted rate is 10 percent, and the principal must be repaid at the end of the year. A second lender offers 9 percent, daily compounding (365-day year), with interest and principal due at the end of the year. What is the difference in the effective annual rates charged by the two banks?

a. 0.31%
b. 0.53%
c. 0.75%
d. 0.96%
e. 1.25%

13. An analyst has estimated how a particular stock's return will vary depending on what will happen to the economy:

State of the Economy	Probability of State Occurring	Stock's Expected Return if this State Occurs
Recession	0.10	-60%
Below Average	0.20	-10
Average	0.40	15
Above Average	0.20	40
Boom	0.10	90

What is the coefficient of variation on the company's stock? (Use the population standard deviation to calculate the coefficient of variation.)

a. 2.121
b. 2.201
c. 2.472
d. 3.334
e. 3.727

14. Which of the following statements about pension plans, if any, is *incorrect*?

a. A defined contribution plan is, in effect, a savings plan that is funded by employers, although many plans also permit additional contributions by employees.
b. Under a defined benefit plan, the employer agrees to give retirees a specifically defined benefit, such as $500 per month or 50 percent of the employee's final salary.
c. A portable pension plan is one that an employee can carry from one employer to another.
d. An employer's obligation is satisfied under a defined contribution plan when it makes the required contributions to the plan. The risk of inadequate investment returns is borne by the employee.
e. If assets exceed the present value of benefits, the pension plan is fully funded.

15. The Ritz Company has a 40-year-old employee that will retire at age 60 and live to age 75. The firm has promised a retirement income of $20,000 at the end of each year following retirement until death. The firm's pension fund is expected to earn 7 percent annually on its assets. What is Ritz's annual pension contribution to the nearest dollar for this employee? (Assume certainty and end-of-year cash flows.)

a. $2,756
b. $3,642
c. $4,443
d. $4,967
e. $5,491

16. Heavy use of off-balance sheet lease financing will tend to

a. Make a company appear less risky than it actually is because its stated debt ratio will appear lower.
b. Make a company appear more risky than it actually is because its stated debt ratio will appear higher.
c. Affect a company's cash flows but not its degree of risk.
d. Have no effect on either cash flows or risk because the cash flows are already reflected in the income statement.
e. None of the above.

17. Which of the following statements is most correct?

a. If new debt is used to refund old debt, the correct discount rate to use in discounting cash flows is the before-tax cost of new debt.
b. The key benefit associated with refunding debt is the reduction in the firm's debt ratio and creation of reserve borrowing capacity.
c. The mechanics of analyzing the NPV of a refunding decision are fairly straightforward. However, the decision of when to refund is not as clear because it requires a forecast of future interest rates.
d. If a firm with a positive NPV refunding project delays refunding and interest rates rise, the firm can still claim the entire interest savings by locking in a low coupon rate when the rates are low, even though it refunds the debt after rates rise.
e. If a firm is considering refunding and interest rates rise, this would tend to lower the expected price of the new bonds which will make them cheaper to the firm and increase the expected interest savings.

18. Trumbull, Inc., has total value (debt plus equity) of \$5 million and \$2 million face value of 1-year zero coupon debt. The volatility (σ) of Trumbull's total value is 0.60, and the risk free rate is 5 percent. Assume that $N(d_1) = 0.9720$ and $N(d_2) = 0.9050$. What is the yield on Trumbull's debt?

   a. 8.8%
   b. 7.4%
   c. 6.9%
   d. 5.3%
   e. 4.2%

19. Which of the following statements concerning the MM extension with growth is *false*?

   a. The tax shields should be discounted at the cost of debt.
   b. The value of a growing tax shield is greater than the value of a constant tax shield.
   c. For a given D/S, the levered cost of equity is greater than the levered cost of equity under MM's original (with tax) assumptions.
   d. For a given D/S, the WACC is greater than the WACC under MM's original (with tax) assumptions.
   e. The total value of the firm increases with the amount of debt.

20. 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. \$1,834.86
   b. \$5,712.31
   c. \$ 0
   d. \$7,547.17
   e. \$4,517.26

Section B: Essay Questions (20 marks)

1. If purchasing power parity (PPP) holds, do firms need to hedge their long-term foreign exchange exposure? Please provide your answer in English ONLY.

2. Do you expect that Apple Inc. uses a *larger* or *smaller* amount of debt than Marriot International Hotel? Please provide your rationales in English ONLY to support your position.