

# 東吳大學 104 學年度碩士班研究生招生考試試題

第 1 頁，共 7 頁

系級	國際經營與貿易學系碩士班 A 組(貿金)	考試時間	100 分鐘
科目	財務管理	本科總分	100 分

## 一、選擇題60分（單選、每題3分）

1. Which of the following items can be found on an income statement?
  - a. Accounts receivable
  - b. Long-term debt
  - c. Sales
  - d. Inventory
  
2. A 15-year, 8%, \$1000 face value bond is currently trading at \$958. The yield to maturity of this bond must be
  - a. less than 8%.
  - b. equal to 8%.
  - c. greater than 8%.
  - d. unknown.
  
3. You just bought a 5-year zero coupon bond with a \$1,000 face value for \$735.67. What is the yield to maturity of this bond?
  - a. 10.36%
  - b. 6.33%
  - c. 4.69%
  - d. 8.18%
  
4. Consider the closing prices for Louis Stock
 

Year	Price
2011	15.00
2010	16.00
2009	14.00
2008	12.00
2007	8.00

What is the standard deviation of return of returns for Louis stock?

  - a. 0.041
  - b. 0.054
  - c. 0.233
  - d. 0.202

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5. Consider a project with the following cash flows.

Year	Cash Flow
0	-\$16,000
1	42,000
2	-27,000

What's the IRR of the project? If a firm's cost of capital is 15%, should the firm accept the project?

- a. 40%; accept the project
- b. 12.5%; reject the project
- c. 50%; accept the project
- d. 30%, accept the project

6. Suppose a particular investment project will generate an immediate cash outflow of \$1,000,000 followed by cash inflows of \$500,000 in each of the next three years. What is the project's IRR? Suppose a company's cost of capital is 15%, should it accept the project?

- a. 23%; reject the project
- b. 23%; accept the project
- c. 15%; reject the project
- d. 15%; accept the project

### **Exhibit 1: Bavarian Brewhouse**

#### Capital Structure Information for Bavarian Brewhouse

Debt ( in million)	\$25
Preferred Stock (in million)	\$ 5
Common Stock (in million)	<u>\$45</u>
Total Capital	\$75
Cost of debt	8%
Annual Preferred Stock Dividend	\$ 2.50
Preferred Stock Market Price	\$16.13
Common Stock Beta	0.85
Risk free rate	3.75%
Expected return on market portfolio	17.55%

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7. Refer to Exhibit 1. What is Bavarian Brewhouse's cost of preferred stock?
  - a. 8.00%
  - b. 15.5%
  - c. 10.7%
  - d. 12.6%
  
8. Refer to Exhibit 1. What is Bavarian Brewhouse's cost of common equity?
  - a. 10.67%
  - b. 12.55%
  - c. 16.23%
  - d. 15.48%
  
9. Refer to Exhibit 1. What is Bavarian Brewhouse's after tax cost of debt, if their marginal tax rate equals 34%?
  - a. 8.00%
  - b. 5.28%
  - c. 6.95%
  - d. 2.72%
  
10. Refer to Exhibit 1. What percentage of Bavarian Brewhouse's capital structure consists of total equity?
  - a. 6.67%
  - b. 60.00%
  - c. 33.33%
  - d. 66.67%
  
11. Refer to Exhibit 1. Assuming no corporate taxes, what is Bavarian Brewhouse's WACC?
  - a. 16.23%
  - b. 12.99%
  - c. 13.44%
  - d. 5.28%

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第 4 頁，共 7 頁

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12. Refer to Exhibit 1. What is Bavarian Brewhouse's WACC if their marginal tax rate equals 34%
- 12.08%
  - 12.99%
  - 13.44%
  - 5.28%

**Exhibit 2**

The following data are projected for a possible investment project:

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
Revenues	\$120,000	\$140,000	\$160,000	\$180,000
Cost of Goods Sold	\$ 36,000	\$ 42,000	\$ 48,000	\$ 54,000
Depreciation	<u>\$ 80,000</u>	<u>\$ 60,000</u>	<u>\$ 40,000</u>	<u>\$ 20,000</u>
EBIT	<u>\$ 4,000</u>	<u>\$ 38,000</u>	<u>\$ 72,000</u>	<u>\$106,000</u>

13. Refer to Exhibit 2. The project requires an initial investment of \$300,000. Working capital is anticipated to be variable at 10% of revenues; the working capital investment must be made at the beginning of each period, and will be recaptured in full at the end of year 4. The tax rate is 40%. What is the initial cash outlay?
- \$300,000
  - \$312,000
  - \$232,000
  - \$220,000
14. Refer to Exhibit 2. The project requires an initial investment of \$300,000. Working capital is anticipated to be variable at 10% of revenues; the working capital investment must be made at the beginning of each period, and will be recaptured in full at the end of year 4. The tax rate is 40%. What is the net cash flow to the firm in year 1?
- \$400
  - \$82,400
  - \$68,400
  - \$80,400
  - \$2,400

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15. Refer to Exhibit 2. The project requires an initial investment of \$300,000 on equipment. Working capital is anticipated to be variable at 10% of revenues; the working capital investment must be made at the beginning of each period, and will be recovered in full at the end of year 4. Equipment will be sold at its book value at the end of year 4. The tax rate is 40%. What is the net cash flow to the firm in year 4?
- a. \$101,600
  - b. \$201,600
  - c. \$183,600
  - d. \$161,600
16. Refer to Exhibit 2. The project requires an initial investment of \$300,000 on equipment. Working capital is anticipated to be variable at 10% of revenues; the working capital investment must be made at the beginning of each period, and will be recovered in full at the end of year 4. Equipment will be sold at its book value at the end of year 4. The tax rate is 40%. What is the net present value of the project if the firm's discount rate is 10%?
- a. -\$20,225
  - b. -\$41,731
  - c. \$24,155
  - d. \$26,570
17. Which of the following credit terms has the highest relevant cost?
- a. 3/10 net 60
  - b. 2/10 net 30
  - c. 2/15 net 45
  - d. 4/15 net 90
18. Suppose that the one-year risk-free interest rate is 5% in the United States. The current spot rate is \$0.7642/C\$ and the one-year forward rate is \$0.7834/C\$. What must the Canadian one-year risk-free interest rate be in order for interest rate parity to hold?
- a. 0.929%
  - b. 0.783%
  - c. 2.43%
  - d. 7.64%

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19. The spot rate on the British pound is 0.5491 per U.S. dollar, while the risk-free borrowing rates are 4% in Britain and 3% in the United States. What is the “fair” forward exchange rate?
- a. 0.5438 pounds per dollar
  - b. 0.7321 pounds per dollar
  - c. 0.4118 pounds per dollar
  - d. 0.5544 pounds per dollar
20. If the spot exchange rate is 110 yen per U.S. dollar, the “fair” forward exchange rate is 115 yen per U.S. dollar, and the risk-free borrowing rate in the United States is 2.5%, what must the risk-free borrowing rate be in Japan?
- a. 7.2%
  - b. 5.6%
  - c. 3.7%
  - d. 0%

## 二、計算題40分

- 1.(10%).** Griswold Travel Inc. has issued 6-year bonds that pay \$30 in interest twice each year. The par value of these bonds is \$1,000 and they offer a yield to maturity of 5.5%. How much are the bonds worth?
- 2.(10%).** One year from today, investors anticipate that Groningen Distillers Inc. stock will pay a dividend of \$3.25 per share. After that, investors believe that the dividend will grow at 20% per year for three years before settling down to a long-run growth rate of 4%. The required rate of return on Groningen stock is 15%. What is the current stock price?

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3.(20%). Cartwell Products has compiled the data shown in the following table for the current costs of its three basic sources of capital - long-term debt, preferred stock, and common stock equity - for various ranges of new financing.

Source of capital	Range of new financing	After-tax cost
Long-term debt	\$0 to \$320,000	6%
	\$320,000 and above	8%
Preferred stock	\$0 and above	17%
Common stock equity	\$0 to \$200,000	20%
	\$200,000 and above	24%

The company's capital structure weights used in calculating its weighted average cost of capital are shown in the following table.

Source of capital	Weight
Long-term debt	40%
Preferred stock	20%
Common stock equity	40%
Total	100%

- Determine the *break points* and ranges of *total* new financing associated with each source of capital.
- Using the data developed in part a, determine the break points (levels of *total* new financing) at which the firm's weighted average cost of capital will change.
- Calculate the weighted average cost of capital for each range of total new financing found in part b. (hint: there are three ranges.)
- Using the results of part c, along with the following information on the available investment opportunities draw the firm's weighted marginal cost of capital (MCC) schedule and investment opportunity schedule (IOS) on the same set of axes.

Investment opportunity	IRR(%)	Initial investment
A	19	200,000
B	15	300,000
C	22	100,000
D	14	600,000
E	23	200,000
F	13	100,000
G	21	300,000
H	17	100,000
I	16	400,000

- Which, if any, of the available investment do you recommend that the firm accept? Explain your answer.