

國立清華大學 102 學年度碩士班考試入學試題

系所班組別：計量財務金融學系

考試科目（代碼）：財務管理(4404)

共 6 頁，第 1 頁 *請在【答案卷、卡】作答

一、單選題 (30%)，共 10 題，每題 3 分。

1. The value of a corporation in a levered buyout is composed of which following four parts:
 - A. unlevered cash flows and interest tax shields during the debt paydown period, unlevered terminal value, and asset sales.
 - B. unlevered cash flows and interest tax shields during the debt paydown period, unlevered terminal value and interest tax shields after the paydown period.
 - C. levered cash flows and interest tax shields during the debt paydown period, levered terminal value and interest tax shields after the paydown period.
 - D. levered cash flows and interest tax shields during the debt paydown period, unlevered terminal value and interest tax shields after the paydown period.
 - E. asset sales, unlevered cash flows during the paydown period, interest tax shields and unlevered terminal value.
2. You own one call option with an exercise price of \$30 on Apple stock. This stock is currently selling for \$27.80 a share but is expected to increase to either \$28 or \$34 a share over the next year. The risk-free rate of return is 5% and the inflation rate is 3%. What is the current value of your option if it expires in one year?
A. \$0.76 B. \$0.79 C. \$0.89 D. \$0.92 E. \$0.95
3. What is the value of a 9-month call with a strike price of \$45 given the Black-Scholes Option Pricing Model and the following information?
Stock price \$48 Exercise price \$45 Time to expiration 0.75
Risk-free rate 0.05 $N(d_1)$ 0.718891 $N(d_2)$ 0.641713
A. \$2.03 B. \$4.86 C. \$6.69 D. \$8.81 E. \$9.27

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4. Jaxson and Sons has an inventory period of 33 days, an accounts payable period of 41 days and an accounts receivable period of 27 days. Management is considering offering a 5% discount if its credit customers pay for their purchases within 10 days. If the new discount is offered the accounts receivable period is expected to decline by 13 days. If the new discount is offered, the operating cycle will decrease from _____ days to _____ days.

A. 19; 6 B. 60; 47 C. 87; 74 D. 101; 88 E. 101; 91

Monsters Incorporated (MI) is ready to launch a new product. Depending upon the success of this product, MI will have a value of either \$100 million, \$150 million, or \$191 million, with each outcome being equally likely. The cash flows are unrelated to the state of the economy (i.e. risk from the project is diversifiable) so that the project has a beta of 0 and a cost of capital equal to the risk-free rate, which is currently 5%. Assume that the capital markets are perfect. Using those information to answer question 5 to 10.

5. Assuming that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs, the initial value of MI's equity without leverage is equal to:

A. \$125 million B. \$133 million C. \$140 million
D. \$146 million E. 157 million.

6. Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a \$125 million face value due next year. The initial value of MI's debt is close to:

A. \$105 million B. \$110 million C. \$115 million
D. \$120 million E. \$125 million

7. Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a \$125 million face value due next year. The yield to maturity of MI's debt is close to:

A. 5.00% B. 12.50% C. 19.25% D. 19.31% E. 20.24%

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8. Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a \$125 million face value due next year. The initial value of MI's equity is closest to:
- A. \$15 million B. \$20 million C. \$22 million
D. \$24 million E. \$29 million
9. Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a \$125 million face value due next year. The total value of MI with leverage is closest to:
- A. \$100 million B. \$122 million C. \$131 million
D. \$134 million E. \$203 million
10. Assume that in the event of default, 20% of the value of MI's assets will be lost in bankruptcy costs and suppose that MI has zero-coupon debt with a \$125 million face value due next year. The present value of MI's financial distress costs is closest to:
- A. \$6.3 million B. \$6.6 million C. \$19.0 million
D. \$19.3 million E. \$20.0 million

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二、複選題 (30%)，共 6 題，每題 5 分。

- MM Proposition I with taxes supports that:
 - There is a positive linear relationship between the amount of debt in a levered firm and its value.
 - The value of a firm is inversely related to the amount of leverage used by the firm.
 - The value of an unlevered firm is equal to the value of a levered firm plus the value of the interest tax shield.
 - The value of a levered firm is equal to the value of an unlevered firm plus the value of the interest tax shield.
 - The value of an unlevered firm is equal to the value of a levered firm.
- Cop Oil Co. has assets with a market value of \$600 million, \$70 million of which are cash. It has debt of \$250 million, and 20 million shares outstanding. Assume perfect capital market holds. If Cop Oil have two choices to distributes the \$70 million as a dividend: cash dividends and stock repurchase. What are the Cop Oil's current stock price, and then its stock price after the cash dividends and stock repurchases, respectively?
A. \$11.0 B. \$12.0 C. \$14.0 D. \$17.5 E. \$17.9
- Cop Oil has the following accounts on its books:

Customer Name	Amount Owed (\$ millions)	Age (days)
Amalgamated Switch and Signal	\$1.5	64
Associated Steel	\$4.3	61
d'Anconia Copper	\$7.4	24
Hammond Motors	\$4.2	10
Incorporated Tool	\$6.4	56
Rearden Metal	\$10.8	13
Summit Casting	\$2.1	42
Taggart Transcontinental	\$6.4	28
United Locomotive Works	\$3.6	72

Cop Oil's credit manager extends credit on terms of 1/15, net 30. What is the percentage of Cop Oil's current receivables? What is the percentage of Cop Oil's receivables that are still eligible to take the discount? What is the percentage of Cop Oil's receivables that are past due?

- A. 32.1% B. 38.3% C. 42.2% D. 54.6% E. 61.7%

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4. What are the characteristics of IPOs puzzles that financial economists had mentioned in financial researches?
- A. On average, IPOs appear to be overpriced.
 - B. On average, IPOs appear to be underpriced.
 - C. The long-run performance of a newly public company (three to five years from the date of issue) is worse than the overall market return.
 - D. The long-run performance of a newly public company (three to five years from the date of issue) is superior than the overall market return.
 - E. The costs of the IPO are very high, and it is unclear why firms willingly incur such high costs.
5. The net payoff to creditors in formal bankruptcy may be low in present value terms because:
- A. the financial structure may be complicated with several groups and types of creditors.
 - B. management consumed in survival and not on a strategic direction.
 - C. indirect costs of bankruptcy may have been costly in lost revenues and poor maintenance.
 - D. administrative costs are high and increase with the complexity and length of time in the formal bankruptcy process.
 - E. firm might use the method of exchanging debt for equity to solve the financial distress.
6. Which of the following are key requirements of the Sarbanes-Oxley Act?
- A. Officers of the corporation must review and sign annual reports.
 - B. Officers of the corporation must now own more than 5% of the firm's stock.
 - C. Firm's auditor independence.
 - D. The restriction of insider trading.
 - E. Avoiding the takeover activities.

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二、問答題 (40%)，共 2 題，每題 20 分。

1. You decide today to invest in a machine that costs \$1,600 at the end of a year, and it is expected to be worth \$300 or \$100 with 50-50 probability. Assume the WACC of this risk type is 10%, should we invest? What if we had a deferral option giving us the right to decide at the end of one year instead of precommitting now? Suppose the cost of investment goes up to \$1,800 if we wait to decide.
2. Discuss the devices of merger defenses. Please give further explanations for each of them.