

科目：財務管理(5131)

考試日期：103 年 2 月 15 日 第 1 節

系所班別：資訊管理與財務金融學系

組別：財金碩乙 A 組

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【不可使用計算機】\*作答前請先核對試題、答案卷(試卷)與准考證之所組別與考科是否相符!!

## I. 單選題 (20%)

1. Which one of the following statements is not correct?

- A) Balance sheet shows a firm's accounting value on a particular date.
- B) Cash and inventory are included in current assets.
- C) Cash flow to stockholders is defined as cash dividends plus repurchases of equity minus new equity financing.
- D) Book value generally tends to exceed market value when fixed assets are included.

2. Which one of the following statements is not correct?

- A) The present value of future cash flows minus initial cost is called the net present value of the project.
- B) The annual percentage rate equals the effective annual rate when the rate on an account is designated as compounded interest.
- C) The interest rate expressed as if it were compounded once per year is called the effective annual rate.
- D) An annuity stream where the payments occur forever is called a perpetuity.

3. Which one of the following statements is not correct?

- A) An investment is acceptable if its internal rate of return is positive.
- B) An investment should be accepted if the net present value is positive and rejected if it is negative.
- C) An investment is acceptable if its calculated payback period is less than some pre-specified period of time.
- D) Net present value can be used when deciding between two mutually exclusive projects.

4. All else constant, a bond will sell at \_\_\_\_\_ when the yield to maturity is \_\_\_\_\_ the coupon rate.

- A) a discount; less than
- B) at par; less than
- C) a premium; less than
- D) a premium; equal to

5. Which one of the following statements about the constant dividend growth model is not correct?

- A) The model assumes that dividends increase at a constant rate forever.
- B) If you expect that the market required rate of return of a stock increases, then you should expect that the market value of this stock increases, all else constant.
- C) It can be used to compute a stock price at any point of time.
- D) If the growth rate of dividend increases (all else constant), then the market value of the stocks would increase.

6. Which one of the following statements about the capital asset pricing model is not correct?

- A) The slope of an asset's security market line is the market risk premium.
- B) If a stock portfolio is well diversified, then the portfolio variance may be less than the variance of the least risky stock in the portfolio.
- C) The linear relation between an asset's expected return and its beta coefficient is security market line.



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D) The risk premium for an individual security is computed by multiplying the security's beta by the risk-free rate of return.

7. Which one of the following statements is not correct?

- A) A well-diversified portfolio has negligible unsystematic risk.
- B) A security that has a beta of zero will have an expected return of the risk free rate.
- C) The diversification effect of a portfolio of two stocks increases as the correlation between the stocks rises.
- D) A stock with an actual return that lies above the security market line has yielded a higher return than expected for the level of risk assumed.

8. When using the cost of debt for the weighted average cost of capital (WACC), the relevant number is the:

- A) post-tax cost of debt since interest is tax deductible.
- B) post-tax cost of debt since dividends are tax deductible.
- C) pre-tax cost of debt since most corporations pay taxes at the same tax rate.
- D) pre-tax cost of debt since it is the actual rate the firm is paying bondholders.

9. Which one of the following statements is not correct?

- A) A conflict of interest between the stockholders and management of a firm is called agency problem.
- B) The process of planning and managing a firm's long-term investments is called capital structure.
- C) The primary goal of financial management is to maximize the current value per share of the existing stock.
- D) The Sarbanes Oxley Act of 2002 is intended to protect investors from corporate abuses.

10. Which one of the following statements is not correct?

- A) The semi-strong form of the EMH states that all publicly available information must be reflected in the current stock price.
- B) The strong form of the EMH states that all information including inside information must be reflected in the current stock price.
- C) Proponents of the EMH typically advocate a passive investment strategy.
- D) Random price movements of stock price indicate irrational markets.

## II. 計算題: (30%)

1. You have a \$1,000 portfolio which is invested in stocks A and B plus a risk-free asset. \$400 is invested in stock A. Stock A has a beta of 1.5 and stock B has a beta of 0.5. How much needs to be invested in stock B if you want a portfolio beta of 0.8 at year 1 and 2, initial cost is 500. Please find internal rate of return (IRR) of this project. (5%)

2. A project has cash flows of 1150 and -660 at year 1 and 2, initial cost is 500. Please find internal rate of return (IRR) of this project. (5%)

3. Given a two-period (years 1 and 2) investment and its return  $r_1$  and  $r_2$ , please prove the geometric average return is equal or smaller than the arithmetic average. (5%)

4. You are considering investing \$1,000 in a complete portfolio. The complete portfolio is composed of treasury bills that pay 5% and a risky portfolio, P, constructed with 2



# 國立交通大學 103 學年度碩士班考試入學試題

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risky securities X and Y. The optimal weights of X and Y in P are 70% and 30% respectively. X has an expected rate of return of 14% and Y has an expected rate of return of 10%. To form a complete portfolio with an expected rate of return of 9.68%, you should invest \_\_\_\_\_ of your complete portfolio in treasury bills. (5%)

5. Company XZY decides to make an investment on a KTV. Items regarding costs and potential cash inflows are shown below.

A. Costs of test marketing (already spent): \$150,000

B. Current market value of proposed factory site (which we own): \$80,000

C. Cost of KTV machine: \$50,000 (depreciated according to straight line system in 5 years)

D. Increase in initial net working capital: \$5,000

E. Production (in units) by year during 5-year life of the machine: 5,000, 5,000, 3,000, 3,000, 3,000

F. Price is \$10.

G. Production cost is \$5 per unit.

H. Annual discount rate for this project: 0%

I. Ending market value of the capital investment (KTV equipment) at year 5 is \$10,000

J. Income and capital-gain tax rate is 34%

(a) What is the after-tax salvage value of the KTV machine at year 5 end? (5%)

(b) Please find the NPV of this project. (5%)

## III. 問答題：(15%)

1. What is the key assumption of the pecking order theory? (5%)

2. Provide three implications of the pecking order theory. (10%)

## IV. 個案問題(20%)

Last month, Gamma Airline announced that it would stretch out its bill payments to 45 days from 30 days. The reason was that the company wanted to "control costs and optimize cash flow." The increased payables period will influence all of the company's 4,000 suppliers.

1. What is the impact of this change in payables policy on Gamma's operating cycle and its cash cycle?

2. What is the impact of the announcement on Gamma's suppliers?

3. Why don't all firms simply increase their payables periods to shorten their cash cycles?

4. Gamma lengthened its payables period to "control costs and optimize cash flow." What is the cash benefit to Gamma from this change?

## V. 解釋名詞 (15%)

1. Jensen's alpha; 2. Bid-ask spread and quote depth; 3. Idiosyncratic risk.