

國立中山大學 115 學年度 碩士班考試入學招生考試試題

科目名稱：財務管理【財管系碩士班丙組】

—作答注意事項—

考試時間：100 分鐘

- 考試開始鈴響前不得翻閱試題，並不得書寫、劃記、作答。請先檢查答案卷（卡）之應考證號碼、桌角號碼、應試科目是否正確，如有不同立即請監試人員處理。
- 答案卷限用藍、黑色筆(含鉛筆)書寫、繪圖或標示，可攜帶橡皮擦、無色透明無文字墊板、尺規、修正液（帶）、手錶(未附計算器者)。每人每節限使用一份答案卷，請斟酌作答。
- 答案卡請以 2B 鉛筆劃記，不可使用修正液（帶）塗改，未使用 2B 鉛筆、劃記太輕或污損致光學閱讀機無法辨識答案者，後果由考生自負。
- 答案卷（卡）應保持清潔完整，不得折疊、破壞或塗改應考證號碼及條碼，亦不得書寫考生姓名、應考證號碼或與答案無關之任何文字或符號。
- 可否使用計算機請依試題資訊內標註為準，如「可以」使用，廠牌、功能不拘，唯不得攜帶書籍、紙張（應考證不得做計算紙書寫）、具有通訊、記憶、傳輸或收發等功能之相關電子產品或其他有礙試場安寧、考試公平之各類器材入場。
- 試題及答案卷（卡）請務必繳回，未繳回者該科成績以零分計算。
- 試題採雙面列印，考生應注意試題頁數確實作答。
- 違規者依本校招生考試試場規則及違規處理辦法處理。

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一、單選題 (共六十分，第 1 題至第 20 題，每題三分)

1. A bond is issued with a 5% coupon rate and a market current yield of 7%. Which of the following statements is correct?

- (A) The bond's yield to maturity is 5%.
- (B) The bond's price at maturity is higher than its issue price.
- (C) The bond's price decreases as it approaches maturity.
- (D) The bond's price at maturity is lower than its issue price.

2. Which of the following statements about dividend policy theories is incorrect?

- (A) Modigliani and Miller (M&M) argue that dividend policy does not affect firm value, largely because shareholders can create "homemade" dividends.
- (B) M&M contend that a firm's value is determined entirely by the success of its investment decisions; therefore, it is independent of dividend policy.
- (C) Under the information-content hypothesis, a dividend cut conveys negative information about expected future earnings; hence, dividend policy matters.
- (D) The dividend clientele effect suggests that a firm's dividend policy attracts particular types of investors; that is, dividend policy arises only in response to clientele demand when higher stock prices are an incentive, and once stock prices are in equilibrium, dividend policy is again irrelevant to firm value.

3. Based on the following dividend distribution plans:

Plan	Stock Dividend	Cash Dividend
A	10%	2.5 per share
B	5%	8 per share

Assume the stock price before the ex-dividend/ex-rights date is NT\$100. Which plan results in a lower stock price after going ex-dividend and ex-rights?

- (A) Plan A
- (B) Plan B
- (C) The two plans result in the same price
- (D) Cannot be determined

4. A, B, and C are three stocks with the same expected return. Their return standard deviations are 0.35, 0.25, and 0.45, respectively. The correlation coefficients are given below:

Correlation Matrix	A	B	C
A	1.00	-0.10	-0.40
B	-0.10	1.00	-0.30
C	-0.40	-0.30	1.00

Which of the following portfolios has the lowest risk? What is the standard deviation of the minimum-risk portfolio?

- (A) Invest equally in stocks A and B
- (B) Invest equally in stocks A and C
- (C) Invest equally in stocks B and C
- (D) Invest all funds in stock C

5. Orion Technologies is currently all-equity financed (zero debt) and could issue debt at an interest rate of 6.4%. Its current WACC is 10.0%, and the corporate tax rate is 24%. If the firm changes its target capital structure to 30% debt (and 70% equity), what will be its cost of equity?

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- (A) 11.07%
- (B) 11.17%
- (C) 11.27%
- (D) 11.37%

6. The stock price of A Inc. will be either \$65 or \$85 one year from now. One-year European call options on the stock are available. The current T-bill rate is 5%. Suppose the current stock price is \$70 and the exercise (strike) price is also \$70. What is the value of the call option today?

- (A) \$5.79
- (B) \$6.38
- (C) \$6.07
- (D) \$7.14

7. A firm has issued a 30-year callable convertible bond with a par value of \$1,000. The bond pays a 3.5% annual coupon, semiannually. Comparable nonconvertible bonds are priced to yield 5 percent, compounded semiannually. The bond's conversion price is \$48, and the current stock price is \$28. Compute (i) the conversion premium and (ii) the bond's minimum value (floor value). $1/1.025^{60} \approx 0.2276$, Which answer is correct?

- (A) Conversion premium = 71.43%; Minimum value = \$583.33
- (B) Conversion premium = 71.43%; Minimum value = \$768.28
- (C) Conversion premium = 41.67%; Minimum value = \$768.28
- (D) Conversion premium = 71.43%; Minimum value = \$795.88

8. Currently, the spot exchange rate is JPY 150.00 per USD. Forecasts indicate that the annual inflation rate is expected to be 2.8% in the United States and 1.2% in Japan. Using the inflation differential to project the exchange rate, what is the predicted exchange rate five years from now?

- (A) JPY 121.50 per USD
- (B) JPY 129.90 per USD
- (C) JPY 138.38 per USD
- (D) JPY 149.40 per USD

9. A European call option has a strike price of \$50 and expires in 12 months. The current stock price is \$95. The risk-free interest rate is 3% per year, compounded continuously. If the stock's volatility is 0% per year, what is the current value of the call option?

- (A) \$42.69
- (B) \$45.00
- (C) \$46.48
- (D) \$47.89

10. Holding all else constant, which of the following changes would increase a firm's cash cycle?

- I. The inventory period increases.
- II. The accounts receivable period increases.
- III. The accounts payable period decreases.

- (A) I only
- (B) I and II
- (C) II and III
- (D) I, II, and III

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11. Which of the following is the most effective defense against a hostile takeover?

- (A) A poison pill
- (B) A golden parachute
- (C) Restructuring the firm's capital structure
- (D) None of the above

12. An investment project requires an initial investment of \$3.2 million today and is expected to generate annual cash inflows of \$0.95 million for 5 years. If the annual discount rate is 4%, what is the project's net present value (NPV)?

- (A) \$1.185 million
- (B) \$1.094 million
- (C) \$1.029 million
- (D) \$0.962 million

13. A sponsor supports a project by pre-ordering the creator's future product and later receives the promised product upon delivery. Which type of crowdfunding is this?

- (A) Equity crowdfunding
- (B) Donation-based crowdfunding
- (C) Reward-based crowdfunding
- (D) Asset-based crowdfunding

14. What corporate governance problem can a pyramidal ownership structure create?

- (A) Conflicts between controlling and minority shareholders
- (B) Separation between voting and cash-flow rights
- (C) Conflicts between shareholders and management
- (D) All of the above

15. Apple Corp is evaluating two alternative capital structures. Under Plan A, the firm would have 13,000 shares outstanding and \$110,000 of debt. Under Plan B, the firm would have 10,500 shares outstanding and \$220,000 of debt. The interest rate on the debt is 9 percent. Under an all-equity plan, the firm would have 15,000 shares outstanding. What are the break-even levels of EBIT for Plan A and Plan B relative to the all-equity plan?

- (A) (74,250, 74,250)
- (B) (66,000, 74,250)
- (C) (73,500, 66,825)
- (D) (74,250, 66,000)

16. You observe the following two securities:

Security	Beta	Expected return
Bubble beta	2.32	16.80%
Roberta beta	(0.50)	9.30%

Assume both securities are correctly priced under the CAPM. Based on this information, what is the expected return on the market portfolio?

- (A) 12.74%
- (B) 13.29%
- (C) 13.88%
- (D) 14.12%

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17. In behavioral finance, the affect heuristic is best described as:

- (A) Investors predict future returns by assuming recent performance will continue.
- (B) Investors use immediate feelings as a shortcut, which influences their perceptions of risk and expected returns.
- (C) Investors give too much weight to information that is vivid and easy to remember, even if it is not very informative.
- (D) Investors tend to believe news that supports what they already think, and pay less attention to news that goes against their view.

18. Which of the following are important indicators commonly used to assess a firm's corporate governance?

- I. Nomination committee
 - II. Shareholder election committee
 - III. Audit committee
 - IV. Supervisory board committee
 - V. Compensation committee
- (A) I, II, and III
 - (B) II, III, and IV
 - (C) I, III, and IV
 - (D) I, III, and V

19. Which statement correctly distinguishes a stock dividend from a stock split?

- (A) Both transactions require a journal entry to reclassify retained earnings into paid-in capital.
- (B) A stock split increases shares outstanding and increases total shareholders' equity by the same proportion.
- (C) A stock dividend typically requires capitalization of retained earnings, whereas a stock split generally does not require such capitalization.
- (D) A large stock dividend is recorded at the market value of the shares issued, while a small stock dividend is recorded at par value.

20. According to Taiwan's Financial Supervisory Commission (金管會) Sustainability Roadmap for listed firms, by which year must all listed firms complete a greenhouse gas (GHG) inventory, with the inventory boundary aligned with the scope of the firm's consolidated financial statements?

- (A) 2025
- (B) 2026
- (C) 2027
- (D) 2028

二、問答題 (共四十分，每題十分)

1. You want to evaluate the risk-adjusted performance of a stock (or a managed portfolio) using the Fama-French three-factor model. Briefly explain, in a step-by-step way, how you would estimate (i) Jensen's alpha and (ii) the stock's (or portfolio's) loadings on the market, size, and value factors.

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2. After finishing its capital expenditures for the year, Ford Manufacturing has \$2,000 of excess cash. Management must decide whether to invest the funds in Treasury bonds yielding 5%, or to distribute the cash to shareholders, who would then invest the proceeds in the same bonds.

(a) If the corporate tax rate is 33%, what personal (ordinary income) tax rate would make shareholders indifferent between receiving the dividend now and having Ford invest the cash on their behalf? (3 points)

(b) Is your answer in part (a) reasonable? Explain briefly. (1 point)

(c) Now assume Ford's only investment alternative is preferred stock yielding 5%, and the 60% corporate dividend exclusion applies. What personal tax rate would make shareholders indifferent to Ford's dividend decision? (The 60% dividend exclusion applies to Ford (a corporation), not to individual shareholders.) (3 points)

(d) Does this provide a strong case for maintaining a low dividend payout ratio? Why or why not? (3 points)

3. Show that, when corporate taxes are taken into account, the degree of operating leverage can be written as:

$$DOL = 1 + [FC \times (1 - T_C) - T_C \times D] / OCF$$

Assume there is no interest expense (i.e., ignore financing effects). Note that this expression reduces to the no-tax case when $T_C = 0$.

Note:

OCF: After-tax operating cash flow

T_C : Corporate tax rate

FC: Fixed costs (excluding depreciation)

D: Depreciation

4. Compaq Corporation is considering relaxing its current cash-only sales policy by offering customers one-period net credit terms (payment due in one period). Assume costs are paid at the time of sale. Under the new policy revenue is collected one period later.

(a) Using the information below, determine whether Compaq should adopt the new policy. Assume the required return is 4.5% per period. (5 points)

	Current policy	New policy
Price per unit	\$67	\$75
Cost per unit	\$52	\$52
Unit sales	3005	3100

(b) Based on your analysis in part (a), compute the break-even unit sales level under the proposed policy (i.e., the quantity that makes Compaq indifferent between the two policies). (5 points)