

國立中山大學 101 學年度碩士暨碩士專班招生考試試題

題號：4122

科目：財務管理【財管系碩士班】

共 3 頁 第 1 頁

以下全部為單選題，每題 5 分，共有 20 題，總分為 100 分。

** Use the following to answer the next two questions:

The number of common shares outstanding of a firm = 1,000. Stock price = \$20/share. EPS = \$2/share every year. This firm plans to issue new shares to raise \$10,000, which will be invested in a new project. Managers expect this new project to generate \$1,200 every year. However, new shareholders believe that this new project will generate annual cash inflow of \$1,500 forever. Assume that (1) the required rate of return on new shares = 10%, and (2) the price of new stock is based on the belief of new shareholders. Accordingly, the price of new stock = X.

1. X 值會落在以下哪一個區間？(1) 20~21 (2) 21.1~21.5 (3) 21.6~22 (4) 22.1~23 (5) 23.1~24 (6) 24.1~25 (7) 25.1~26 (8) lower than 20 (9) higher than 26. (10) None of the above.
2. What is the REALIZED EPS after the stock issuance if managers' information is correct？(1) 3.0~2.9 (2) 2.9~2.8 (3) 2.8~2.7 (4) 2.7~2.6 (5) 2.6~2.5 (6) 2.5~2.4 (7) 2.4~2.3 (8) 2.3~2.2 (9) 2.2~2.0 (10) None of the above.

*** Use the following to answer the next two questions:

The value of stock index futures per contract is \$1 million. The deposit (as defined by margin requirement) per contract is \$100,000. Your own capital is \$6 millions. The Beta of your investment position is 5, while the stock market portfolio's Beta is 1. Risk-free rate = 5%. Cash dividend yield = 2%. Stock index now = 8,000. To achieve your target Beta at 5, you should (1) buy X contracts of this futures, and (2) buy \$Y of government bond.

3. The value of X will be: (1) 30~40 (2) 40~50 (3) 50~60 (4) 60~70 (5) 70~80 (6) smaller than or equal to 29 (7) larger than or equal to 81.
4. The value of Y should be: (1) 2.0 million ~ 2.9 million (2) 3.0 million ~ 3.9 million (3) 4.0 million ~ 4.9 million (4) 5.0 million ~ 5.9 million (5) smaller than 2.0 million (6) 6.0 million
5. 股票 A (價格 = S) 之買權 (價格 = C)、履約價 30，賣權 (價格 = P)、履約價 30，都是一年後到期，假設 $C = a \times S - b$ ， $P = c \times S + d$ 。如果 a 等於 0.5，則 c 的值落在以下哪一個區間？(1) 0 ~ 0.1 (2) 0.11 ~ 0.2 (3) 0.21 ~ 0.3 (4) 0.31 ~ 0.4 (5) 0.41 ~ 0.5 (6) higher than 0.5 (7) -0.41 ~ -0.5 (8) -0.31 ~ -0.4 (9) -0.21 ~ -0.3 (10) 0 ~ -0.2
6. According to MM Theory (no tax, no information asymmetry), how many of the following will remain the same if a company borrows and then uses the loan to buy back the stock: Expected return on equity, cost of the company's capital, stock price, stock's risk, risk on the company's assets: (1) 0 (2) 1 (3) 2 (4) 3 (5) 4 (6) 5.
7. The major difference between options and futures is (1) the type of underlying asset (2) the duration of maturity. (3) the multiplier of the contract. (4) the obligation or right to exercise the contract. (5) The two are basically the same.

國立中山大學 101 學年度碩士暨碩士專班招生考試試題

題號：4122

科目：財務管理【財管系碩士班】

共 3 頁 第 2 頁

8. Can we identify the size effect based on the following table ? (1) Yes. (2) No.

| ME/BE of stock | observed annual stock return | Beta (i.e., β) |
|-----------------|------------------------------|-----------------------|
| 1= the smallest | 20% | 1.2 |
| 2 | 15% | 1.1 |
| 3 | 12% | 1.0 |
| 4 | 6% | 0.9 |
| 5= the largest | 4% | 0.8 |

Risk-free rate= 2% a year. ME/BE= market value of equity ÷ book value of equity.
Suppose the market portfolio is the equally-weighted stock index.

9. You have \$10,000. ETF price = \$100/share. Call option on ETF (exercise=\$110, maturity= 1 year) is priced at \$10/unit. Put option on ETF (exercise price= \$90, maturity= 1 year) is priced at \$10/unit. You buy ETF for \$9,000, buy put option on ETF for \$1,000, hold on for 1 year. What is your largest possible loss ? (1) 0 ~ -5.0%. (2) -5.1% ~ -10.0% (3) -10.1% ~ -20.0% (4) -20.1% ~ -30% (5) None of the above.
10. Which of the following observations would provide evidence against the strong form of efficient market theory? I) Mutual fund managers do not on average make superior returns II) In any year approximately 50% of all pension funds outperform the market III) Managers who trade in their own firm's stocks make positive abnormal returns. (1) I only (2) II only (3) I and II only (4) III only (5) I and III (6) II and III (7) None of the above.
11. The fact that stock abnormal returns over 3 years following IPO are positive is : (1) consistent with weak-form market efficiency. (2) consistent with semi-strong-form market efficiency. (3) consistent with strong-form market efficiency. (4) The above three answers are correct. (5) inconsistent with weak-form market efficiency. (6) inconsistent with semi-strong-form market efficiency. (7) inconsistent with strong-form market efficiency. (8) None of the above
12. The opportunity to defer investing to a later date may have value because: (1) the cost of capital may increase in the near future. (2) uncertainty may be increased in the future. (3) Investment costs fluctuate over time. (4) Interest rate may go up in the future. (5) Market conditions may change and increase the NPV of the project.
13. Buying the stock and the put option on the stock provides the same payoff as: (1) Short selling stock and buying a call option on stock. (2) Investing the present value of the exercise price in government bond and buying the call option on stock. (3) Writing (selling) a put option and buying a call option on stock. (4) None of above.
14. Which of the following is most likely used to reduce the risk of negative interest rate spread (負利差) facing the insurance industry ? (1) buy put option on interest rate (2) buy interest rate futures (3) sell call option on interest rate (4) sell interest rate swap (5) buy short-term government bond (6) None of the above.
15. Firm A is planning to acquire Firm B. If Firm A prefers to make a stock offer for the merger, it empirically indicates that: (1) Firm A's managers are optimistic about the post merger value of A. (2) Firm A's managers are pessimistic about the post merger value of

國立中山大學 101 學年度碩士暨碩士專班招生考試試題

題號：4122

科目：財務管理【財管系碩士班】

共 3 頁 第 3 頁

A. (3) Firm A's managers are neutral about the post merger value of A. (4) The market is efficient.

16. Under what conditions would a policy of maximizing the value of the entire company not be the same as a policy of maximizing shareholders' wealth? (1) If an issue of debt affects the value of existing debt (2) If the issue of debt increases the probability of bankruptcy (3) If the firm issues debt for the first time (4) If the beta of equity is changed when the company changes the capital structure.

17. Normal and lognormal distributions of stock returns are completely specified (summarized) by: (1) mean (2) standard deviation (3) third moment (4) (1), (2) and (3) above. (5) (1) and (2) above. (6) None of the above.

*** Use the following to answer the next 2 questions.

The following data on a merger is given:

| | Firm A | Firm B | Firm A+B (after merger) |
|--------------------|----------|--------|-------------------------|
| Price per share | \$100 | \$10 | |
| Total earnings | \$500 | \$300 | |
| Shares outstanding | 100 | 40 | |
| Total value | \$10,000 | \$400 | \$11,000 |

18. Firm A has proposed to acquire Firm B at a price of \$20 per share for Firm B's stock. Calculate A's NPV from the merger. (1) Lower than \$100 (2) 101 ~ 150 (3) 151 ~ 200 (4) 201~250 (5) 251~300 (6) 301~400 (7) 401~500 (8) Higher than 500.

19. (Using the information of above question) If firm A pays in cash, the post-merger-announcement price per share for Firm A's stock = X. The post-merger-announcement per share price for Firm B's stock = Y. Then, $X - Y = ?$ (1) 0~50 (2) 51~100 (3) 101~150 (4) 151~200 (5) None of the above.

20. A call option has an exercise price of \$150. At the final exercise date, the stock price could be either \$100 or \$200. Which investment would combine to give the same payoff as the stock? (1) Lend PV of \$100 and buy two calls. (2) Lend \$100 and buy two calls. (3) Lend PV of \$100 and sell two calls. (4) Lend \$100 and sell two calls. (5) Borrow PV of \$100 and buy two calls. (6) Borrow \$100 and buy two calls. (7) Borrow PV of \$100 and sell two calls. (8) Borrow \$100 and sell two calls. (9) None of the above.