

國立高雄大學 113 學年度研究所碩士班招生考試試題

科目：財務管理
考試時間：100 分鐘

系所：財務金融學系(財務金融
組)
本科原始成績：100 分

是否使用計算機：是

I. Multiple Choice Questions -- Choose one alternative that best completes the statement or answers the question. (2 points each, total 40 points)

Please write down the answers on the provided answer sheet.

- 1) Which of the following is a business owned by a single individual?
A) sole proprietorship B) corporation
C) limited liability company D) limited partnership
E) general partnership
- 2) The tax rates for a particular year are shown below. What is the average tax rate for a firm with taxable income of \$129,000?
- | Taxable Income | Tax Rate |
|-------------------|----------|
| \$0 – 50,000 | 6% |
| 50,001 – 75,000 | 15% |
| 75,001 – 100,000 | 25% |
| 100,001 – 335,000 | 35% |
- A) 25.00% B) 17.95% C) 35.00% D) 22.17% E) 25.97%
- 3) At the beginning of the year, the NUK firm has current assets of \$320 and current liabilities of \$232. At the end of the year, the current assets are \$490 and the current liabilities are \$269. What is the change in net working capital?
A) -\$150 B) \$125 C) \$205 D) -\$125 E) \$133
- 4) For the past year, ABC Corp. had sales of \$46,500, interest expense of \$3,900, cost of goods sold of \$16,834, selling and administrative expense of \$11,900, and depreciation of \$6,560. What was the company's net income if the tax rate was 40%?
A) \$4,936.2 B) \$7,306.0 C) \$4,882.5 D) \$7,390.0 E) \$4,383.6
- 5) A company has \$1,300 in inventory, \$4,728 in net fixed assets, \$598 in accounts receivable, \$254 in cash, \$530 in accounts payable, \$900 in long-term debt, and \$5,320 in equity. What are the company's total assets?
A) \$7,419 B) \$6,880 C) \$7,870 D) \$6,750 E) \$10,050
- 6) An interest rate that is compounded quarterly but is expressed as if the rate were compounded annually; what is the term of the rate?
A) stated interest rate B) compound interest rate
C) periodic interest rate D) effective annual rate
E) quarterly interest rate

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7) There is a project with the following cash flows. What is the payback period?

Year	Cash Flow
0	-\$30,000
1	8,500
2	9,000
3	7,950
4	8,550
5	-8,300

- A) 4.00 years B) 3.53 years C) 2.58 years D) 3.42 years
E) cannot be paid back

8) A project with an initial cost of \$57,600 is expected to provide annual cash flows of \$13,000 over the 5-year life of the project. What is the project's profitability index if the required return is 6%?

- A) 1.257 B) 0.857 C) 0.785 D) 0.951 E) 0.734

9) Ggoogle's stock is currently trading for \$200 per share. The firm's management believes that the firm's primary clientele can afford to spend between \$1,800 and \$2,000 to purchase a round lot of 100 shares. What strategy should the firm consider?

- A) reverse stock split. B) preemptive right.
C) stock dividend. D) special dividend.
E) stock split.

10) NUKFIN Corporation has 36,000 shares of stock outstanding at a market price of \$4.50 per share. What will the market share price be if the company does a 1-for-6 reverse stock split?

- A) \$.75 B) \$1.20 C) \$22.50 D) \$27.00 E) \$29.50

11) What are the arithmetic and geometric average returns for a stock with annual returns of 12%, 9%, -7%, and 14%?

- A) 7.00%; 6.66% B) 11.20%; 7.37%
C) 7.75%; 7.37% D) 11.20%; 7.75%
E) 7.75%; 11.00%

12) All else constant, a bond will sell at _____ when the yield to maturity is _____ the coupon rate.

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

13) If a bond provides a real rate of return of 3.01% at a time when inflation is 2.50%, what is the nominal rate of return on the bond?

- A) 7.53% B) 5.59% C) 6.16% D) 5.10% E) 6.11%

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II. Problem-Solving and Essay Questions -- Write the word or phrase that best completes each statement or answers the question. (total 60 points)

Please write down the answers on the provided answer sheet.

1. The following is the list of corporate bond information traded in the market. Assume that you are a rational investor. All bonds are issued in U.S. dollars. You expect that the Fed will lower the interest rate soon. Because of the expected interest rate drop, you plan to purchase bonds and expect a large capital gain.

Ticker	COUPON	YIELD	MOODY'S RATING	MATURITY DATE	BID	ASK
TB0217	5.00%	4.00%	Aaa	5/15/2037	110.5	111.1
TB0326	4.38%	4.06%	Aaa	2/15/2038	103.7	104.1
TB0455	4.25%	4.25%	Aaa	11/15/2040	100.5	100.9
TB0123	1.25%	4.35%	Aaa	5/15/2050	51.96	52.31
TB0264	3.00%	4.41%	Aaa	11/15/2045	80.66	81.04
TB0337	2.63%	4.67%	Aaa	3/31/2025	97.77	97.91
TB0454	2.25%	4.96%	Aaa	10/31/2024	97.98	98.07

- (a) what are the characteristics of the ideal bonds you should invest in? Please explain it. (5 points)
- (b) What is your choice of the listed T-bonds if your budget only allows you to purchase one unit of T-bond? Why? (Write down the ticker of your choice) (5 points)

2. After graduating, you plan to purchase a 10 million-dollar house. You will apply for a mortgage from a bank. Assume that your annual mortgage rate is 3%. The amount of the mortgage that you apply is 80% of the house value. You can pay for the mortgages for 20 or 30 years.

- (a) What are the monthly payments for these two different mortgage terms? (4 points)
- (b) What are total interest and principal payments for two different mortgage terms respectively? (4 points)
- (c) Which mortgage term do you prefer? Why? (2 points)

3. There are three types of bonds, which are premium bonds, discount bonds, and par bonds. The bond's return, which is the yield to maturity, equates to the sum of the current yield and capital gain yield. What are the capital gain yields (positive, negative, or zero) of these three bonds, respectively, when the time to maturity of the bonds approaches the maturity date? Why? (You may use the graph to demonstrate the reasons.) (10 points)

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4. There are several strategies for trading options. The following are some examples of the strategies and their definitions. Assume that X is the strike price and S is the option's spot price of the underlying asset.

Covered Call: Sell a call option against a long stock position.

Protective Put: Buy a put option to protect an existing long stock position.

Long Straddle: Simultaneously buy a call and a put with the same strike price and expiration.

Long strangle: Buy a call option with a higher strike price and a put option with a lower strike price. Both options have the same underlying asset and the same expiration date, but they have different strike prices

Short Straddle: Simultaneously sell a call and a put with the same strike price and expiration.

Short Strangle: Selling a call option with a higher strike price and selling a put option with a lower strike. Both options have the same underlying asset and the same expiration date, but they have different strike prices

- (a) Demonstrate the contingency graphs of the option trading strategies above. (6 points)
- (b) If you aim to profit from a big price change (either up or down) in the underlying asset, which strategies should you use? (2 points)
- (c) If you aim to profit from little or no price movement in the underlying asset, which strategies should you use? (2 points)
- (d) Which option trading strategies are riskier? In other words, the strategies have the potential loss if the expectation is incorrect. (5 points)

5. Annuities can be separated into two types. They are annuity due and ordinary annuity. You plan to buy a life annuity from an insurance company. Life annuities are insurance or investment products that provide the beneficiary with fixed payments at regular intervals. You buy the life annuity with a lump-sum payment. The insurance company makes regular payments to you periodically after you retire.

- (a) Define annuity due and ordinary annuity respectively. (4 points)
- (b) In terms of present value (PV) and future value (FV) respectively, what are the relationships between annuity due and ordinary annuity? (6 points)
- (c) The insurance company offers two options to the beneficiary with fixed payments at regular intervals. You can receive the same payment regularly regarding annuity due or ordinary annuity. Which type of payment for the annuity should you choose? Why? (5 points)