

國立成功大學

112學年度碩士班招生考試試題

編 號：230

系 所：財務金融研究所

科 目：財務管理

日 期：0207

節 次：第 2 節

備 註：可使用計算機

※ 考生請注意：本試題可使用計算機。 請於答案卷(卡)作答，於本試題紙上作答者，不予計分。

Section A: Multiple Choice Questions (80 marks, 4 points each)

Please answer your questions in capital letters (e.g., A, B, etc.)

1. Which of the following statements is CORRECT?
 - a. Since accounts payable and accrued liabilities must eventually be paid off, as these accounts increase, AFN as calculated by the AFN equation must also increase.
 - b. Suppose a firm is operating its fixed assets at below 100% of capacity, but it has no excess current assets. Based on the AFN equation, its AFN will be larger than if it had been operating with excess capacity in both fixed and current assets.
 - c. If a firm retains all of its earnings, then it cannot require any additional funds to support sales growth.
 - d. Additional funds needed (AFN) are typically raised using a combination of notes payable, long-term debt, and common stock. Such funds are non-spontaneous in the sense that they require explicit financing decisions to obtain them.
 - e. If a firm has a positive free cash flow, then it must have either a zero or a negative AFN.

2. Assuming that the term structure of interest rates is determined as posited by the pure expectations theory, which of the following statements is CORRECT?
 - a. In equilibrium, long-term rates must be equal to short-term rates.
 - b. An upward-sloping yield curve implies that future short-term rates are expected to decline.
 - c. The maturity risk premium is assumed to be zero.
 - d. Inflation is expected to be zero.
 - e. Consumer prices as measured by an index of inflation are expected to rise at a constant rate.

3. Roenfeld Corp believes the following probability distribution exists for its stock. What is the coefficient of variation on the company's stock?

State of the Economy	Probability of State Occurring	Stock's Expected Return
Boom	0.45	25%
Normal	0.50	15%
Recession	0.05	5%

- a. 0.2839
- b. 0.3069
- c. 0.3299
- d. 0.3547
- e. 0.3813

4. Which of the following statements is CORRECT?
- a. Sinking fund provisions sometimes turn out to adversely affect bondholders, and this is most likely to occur if interest rates decline after the bond was issued.
 - b. Most sinking funds require the issuer to provide funds to a trustee, who holds the money so that it will be available to pay off bondholders when the bonds mature.
 - c. A sinking fund provision makes a bond more risky to investors at the time of issuance.
 - d. Sinking fund provisions never require companies to retire their debt; they only establish “targets” for the company to reduce its debt over time.
 - e. If interest rates increase after a company has issued bonds with a sinking fund, the company will be less likely to buy bonds on the open market to meet its sinking fund obligation and more likely to call them in at the sinking fund call price.
5. Savickas Petroleum’s stock has a required return of 12%, and the stock sells for \$40 per share. The firm just paid a dividend of \$1.00, and the dividend is expected to grow by 30% per year for the next 4 years, so $D_4 = \$1.00(1.30)^4 = \2.8561 . After $t = 4$, the dividend is expected to grow at a constant rate of X% per year forever. What is the stock’s expected constant growth rate after $t = 4$, i.e., what is X?
- a. 5.17%
 - b. 5.44%
 - c. 5.72%
 - d. 6.02%
 - e. 6.34%

6. Safeco Company and Risco Inc are identical in size and capital structure. However, the riskiness of their assets and cash flows are somewhat different, resulting in Safeco having a WACC of 10% and Risco a WACC of 12%. Safeco is considering Project X, which has an IRR of 10.5% and is of the same risk as a typical Safeco project. Risco is considering Project Y, which has an IRR of 11.5% and is of the same risk as a typical Risco project.
- Now assume that the two companies merge and form a new company, Safeco/Risco Inc. Moreover, the new company's market risk is an average of the pre-merger companies' market risks, and the merger has no impact on either the cash flows or the risks of Projects X and Y. Which of the following statements is CORRECT?
- If the firm evaluates these projects and all other projects at the new overall corporate WACC, it will probably become riskier over time.
 - If evaluated using the correct post-merger WACC, Project X would have a negative NPV.
 - After the merger, Safeco/Risco would have a corporate WACC of 11%. Therefore, it should reject Project X but accept Project Y.
 - Safeco/Risco's WACC, as a result of the merger, would be 10%.
 - After the merger, Safeco/Risco should select Project Y but reject Project X. If the firm does this, its corporate WACC will fall to 10.5%.
7. Projects S and L both have an initial cost of \$10,000, followed by a series of positive cash inflows. Project S's undiscounted net cash flows total \$20,000, while L's total undiscounted flows are \$30,000. At a WACC of 10%, the two projects have identical NPVs. Which project's NPV is more sensitive to changes in the WACC?
- Project S.
 - Project L.
 - Both projects are equally sensitive to changes in the WACC since their NPVs are equal at all costs of capital.
 - Neither project is sensitive to changes in the discount rate, since both have NPV profiles that are horizontal.
 - The solution cannot be determined because the problem gives us no information that can be used to determine the projects' relative IRRs.

8. Atlas Corp. is considering two mutually exclusive projects. Both require an initial investment of \$10,000 at $t = 0$. Project S has an expected life of 2 years with after-tax cash inflows of \$6,000 and \$8,000 at the end of Years 1 and 2, respectively. Project L has an expected life of 4 years with after-tax cash inflows of \$4,373 at the end of each of the next 4 years. Each project has a WACC of 9.25%, and Project S can be repeated with no changes in its cash flows. The controller prefers Project S, but the CFO prefers Project L. How much value will the firm gain or lose if Project L is selected over Project S, i.e., what is the value of $NPV_L - NPV_S$?
- \$56.50
 - \$62.15
 - \$68.37
 - \$75.21
 - \$82.73
9. Lindley Corp. is considering a new product that would require an investment of \$10 million now, at $t = 0$. If the new product is well received, then the project would produce after-tax cash flows of \$5 million at the end of each of the next 3 years ($t = 1, 2, 3$), but if the market did not like the product, then the cash flows would be only \$2 million per year. There is a 50% probability that the market will be good. The firm could delay the project for a year while it conducts a test to determine if demand is likely to be strong or weak. The project's cost and expected annual cash flows would be the same whether the project is delayed or not. The project's WACC is 10.0%. What is the value (in thousands) of the project after considering the investment timing option?
- \$ 726
 - \$ 807
 - \$ 896
 - \$ 996
 - \$1,106
10. Which of the following statements is CORRECT?
- Generally, debt ratios do not vary much among different industries, although they do vary among firms within a given industry.
 - Electric utilities generally have very high common equity ratios because their revenues are more volatile than those of firms in most other industries.
 - Airline companies tend to have very volatile earnings, and as a result they generally have high target debt-to-equity ratios.

- d. Wide variations in capital structures exist both between industries and among individual firms within given industries. These differences are caused by differing business risks and also managerial attitudes.
- e. Since most stocks sell at or very close to their book values, book value capital structures are typically adequate for use in estimating firms' weighted average costs of capital.

11. Which of the following statements is CORRECT?

- a. If a company has a 2-for-1 stock split, its stock price should roughly double.
- b. Capital gains earned on shares repurchased are taxed less favorably than dividends, which is why companies typically pay dividends and avoid share repurchases.
- c. Very often, a company's stock price will rise when it announces that it plans to commence a share repurchase program. Such an announcement could lead to a stock price decline, but this does not normally happen.
- d. Stock repurchases increase the number of outstanding shares.
- e. The clientele effect is the best explanation for why companies tend to vary their dividend payments from quarter to quarter.

12. Swim Suits Unlimited is in a highly seasonal business, and the following summary balance sheet data show its assets and liabilities at peak and off-peak seasons (in thousands of dollars):

	<u>Peak</u>	<u>Off-Peak</u>
Cash	\$ 50	\$ 30
Marketable securities	0	20
Accounts receivable	40	20
Inventories	100	50
Net fixed assets	<u>500</u>	<u>500</u>
Total assets	<u>\$690</u>	<u>\$620</u>
Payables and accruals	\$ 30	\$ 10
Short-term bank debt	50	0
Long-term debt	300	300
Common equity	<u>310</u>	<u>310</u>
Total claims	<u>\$690</u>	<u>\$620</u>

From this data we may conclude that

- a. Swim Suits' current asset financing policy calls for exactly matching asset and liability maturities.
- b. Swim Suits' current asset financing policy is relatively aggressive; that is, the company finances some of its permanent assets with short-term discretionary debt.
- c. Swim Suits follows a relatively conservative approach to current asset financing; that is, some of its short-term needs are met by permanent capital.
- d. Without income statement data, we cannot determine the aggressiveness or conservatism of the company's current asset financing policy.
- e. Without cash flow data, we cannot determine the aggressiveness or conservatism of the company's current asset financing policy.

13. A riskless hedge can best be defined as

- a. A situation in which aggregate risk can be reduced by derivatives transactions between two parties.
- b. A hedge in which an investor buys a stock and simultaneously sells a call option on that stock and ends up with a riskless position.
- c. Standardized contracts that are traded on exchanges and are "marked to market" daily, but where physical delivery of the underlying asset is virtually never taken.
- d. Two parties agree to exchange obligations to make specified payment streams.
- e. Simultaneously buying and selling a call option with the same exercise price.

14. Suppose 6 months ago a Swiss investor bought a 6-month U.S. Treasury bill at a price of \$9,708.74, with a maturity value of \$10,000. The exchange rate at that time was 1.420 Swiss francs per dollar. Today, at maturity, the exchange rate is 1.324 Swiss francs per dollar. What is the annualized rate of return to the Swiss investor?

- a. -7.93%
- b. -7.13%
- c. -6.42%
- d. -5.78%
- e. -5.20%

15. Valdes Enterprises is considering issuing a 10-year convertible bond that would be priced at its \$1,000 par value. The bonds would have an 8.00% annual coupon, and each bond could be converted into 20 shares of common stock. The required rate of return on an otherwise similar nonconvertible bond is 10.00%. The stock currently sells for \$40.00 a share, has an expected dividend in the coming year of \$2.00, and has an expected constant growth rate of 5.00%. What is the estimated floor price of the convertible at the end of Year 4?
- \$901.28
 - \$924.39
 - \$948.09
 - \$972.41
 - \$996.72
16. Which of the following statements is most CORRECT?
- Tax considerations often play a part in mergers. If one firm has excess cash, purchasing another firm exposes the purchasing firm to additional taxes. Thus, firms with excess cash rarely undertake mergers.
 - The smaller the synergistic benefits of a particular merger, the greater the scope for striking a bargain in negotiations, and the higher the probability that the merger will be completed.
 - Since mergers are frequently financed by debt rather than equity, a lower cost of debt or a greater debt capacity are rarely relevant considerations when considering a merger.
 - Managers who purchase other firms often assert that the new combined firm will enjoy benefits from diversification, including more stable earnings. However, since shareholders are free to diversify their own holdings, and at what's probably a lower cost, research of U.S. firms suggests that in most cases, diversification through mergers does not increase the firm's value.
 - Research of U.S. firms suggests that managers' personal motivations have had little, if any, impact on firms' decisions to merge.
17. Assume that you own an annuity that will pay you \$15,000 per year for 12 years, with the first payment being made today. You need money today to start a new business, and your uncle offers to give you \$120,000 for the annuity. If you sell it, what rate of return would your uncle earn on his investment?
- 6.85%
 - 7.21%
 - 7.59%
 - 7.99%
 - 8.41%

18. Niendorf Corporation's 5-year bonds yield 8.00%, and 5-year T-bonds yield 4.80%. The real risk-free rate is $r^* = 2.75\%$, the inflation premium for 5-year bonds is $IP = 1.65\%$, the default risk premium for Niendorf's bonds is $DRP = 1.20\%$ versus zero for T-bonds, and the maturity risk premium for all bonds is found with the formula $MRP = (t - 1) \times 0.1\%$, where $t =$ number of years to maturity. What is the liquidity premium (LP) on Niendorf's bonds?
- 1.31%
 - 1.46%
 - 1.62%
 - 1.80%
 - 2.00%
19. Which of the following statements is CORRECT?
- Collections Inc. is in the business of collecting past-due accounts for other companies, i.e., it is a collection agency. Collections' revenues, profits, and stock price tend to rise during recessions. This suggests that Collections Inc.'s beta should be quite high, say 2.0, because it does so much better than most other companies when the economy is weak.
 - Suppose the returns on two stocks are negatively correlated. One has a beta of 1.2 as determined in a regression analysis using data for the last 5 years, while the other has a beta of -0.6. The returns on the stock with the negative beta must have been negatively correlated with returns on most other stocks during that 5-year period.
 - Suppose you are managing a stock portfolio, and you have information that leads you to believe the stock market is likely to be very strong in the immediate future. That is, you are convinced that the market is about to rise sharply. You should sell your high-beta stocks and buy low-beta stocks in order to take advantage of the expected market move.
 - You think that investor sentiment is about to change, and investors are about to become more risk averse. This suggests that you should rebalance your portfolio to include more high-beta stocks.
 - If the market risk premium remains constant, but the risk-free rate declines, then the required returns on low-beta stocks will rise while those on high-beta stocks will decline.
20. Which of the following statements is CORRECT?
- If a coupon bond is selling at par, its current yield equals its yield to maturity.
 - If rates fall after its issue, a zero coupon bond could trade at a price above its maturity (or par) value.
 - If rates fall rapidly, a zero coupon bond's expected appreciation could become negative.
 - If a firm moves from a position of strength toward financial distress, its bonds' yield to maturity would probably decline.
 - If a bond is selling at a premium, this implies that its yield to maturity exceeds its coupon rate.

