

Complete the following exam by answering the questions and compiling your answers into a word-processing document. When you're ready to submit your answers, refer to the instructions at the end of your exam booklet. Be certain to indicate the proper question number before each of your answers. Remember to show your work if an answer requires a mathematical solution.

Part A: Solve each of the following problems. Each answer is worth 20 points.

1. Two mutually exclusive investments cost \$10,000 each and have the following cash inflows. The firm's cost of capital is 10%.

Investment		
Cash inflow	A	B
Year 1	—	—
Year 2	\$15,407	—
Year 3	—	—
Year 4	—	\$19,390

- A. What is the net present value of each investment?
- B. What is the internal rate of return of each investment?
- C. Which investment(s) should the firm make?
- D. Would your answers be different to C if the funds received in Year 2 for investment A could be reinvested at 16%?

Show your work.

2. Given the following information, answer the following questions:

$$TR = \$3Q$$

$$TC = \$1,200 + \$2Q$$

- A. What is the break-even level of output?
- B. If the firm sells 1,300 units, what are its earnings or losses?
- C. If sales rise to 2,000 units, what are the firm's earnings or losses?
- D. If the total cost equation were $TC = \$2,000 + \$1.80Q$, what happens to the break-even level of output units?

3. Determine the current market prices of the following \$1,000 bonds if the comparable rate is 10% and answer the following questions.

Be sure you show your work here for the price and current yield and then answer the questions below.

XY 5.25% (interest paid annually) for 20 years

AB 14% (interest paid annually) for 20 years

- A. Which bond has a current yield that exceeds the yield to maturity?
- B. Which bond may you expect to be called? Why?
- C. If CD, Inc., has a bond with a 5.25% coupon and a maturity of 20 years but which was lower rated, what would be its price relative to the XY, Inc., bond? Explain.

Part B: Indicate whether the statement is True or False. Each answer is worth 2 points.

- _____ 1. *Discounting* refers to the process of bringing the future back to the present.
- _____ 2. An increase in retained earnings is a cash inflow.
- _____ 3. If a firm doesn't pay cash dividends, it may reinvest the earnings and grow.
- _____ 4. Total revenue equals price times quantity.
- _____ 5. The internal rate of return equates the present value of an investment's cash inflows and its cost (outflows).

Part C: Select the one best answer to each question. Each answer is worth 4 points.

1. An investor may place a limit order that
 - A. limits the amount of commissions.
 - B. specifies when the stock will be purchased.
 - C. establishes the exchange on which the security is to be bought or sold.
 - D. states a price at which the investor seeks to buy or sell the stock.
2. Which of the following is *not* a financial intermediary?
 - A. New York Stock Exchange
 - B. Washington Savings and Loan
 - C. First National City Bank
 - D. Merchants Savings Bank
3. Using accelerated depreciation
 - A. initially increases the firm's profits.
 - B. initially decreases the firm's taxes.
 - C. discourages investment in plant and equipment.
 - D. increases expenses and decreases cash flow.
4. The current yield on a bond is
 - A. interest paid divided by the bond's price.
 - B. the bond's coupon.
 - C. the interest rate stated on the bond.
 - D. the yield over the lifetime of the bond.
5. The increased use of financial leverage may
 - I. affect the firm's credit rating.
 - II. decrease risk.
 - III. alter the firm's earnings.
 - A. I and II
 - B. I and III
 - C. II and III
 - D. I, II, and III

Part D: Solve each of the following problems. Each answer is worth 5 points.

1. If a new college graduate wants a car costing \$21,000, how much must be saved annually over the next four years if the funds earn 5%?
2. You purchase a bond for \$875. It pays \$60 a year (that is, the semiannual coupon is 3%), and the bond matures after 10 years. What is the yield to maturity?