

Instructions:

- 1) The part of the exam is open book and open notes. No scrap paper is allowed, use the back of the exam if necessary.
- 2) Partial points are based on readily observable evidence that you know at least part of the solution concept. The more evidence presented (and the clearer the evidence), the better the chance for partial points. In other words, SHOW ALL WORK!
- 3) True/False questions are worth 1 points. Multiple choice questions are worth 2 points. Short answer questions usually take less than three sentences and are worth 2 points. Problems are worth the number of points listed in the question.

1. According to the text, the primary goal for a firm's financial managers is to:
  - a. Maximize the firm's stock price.
  - b. Maximize long run profits.
  - c. Minimize firm risk.
  - d. Increase the firm's asset base.
  - e. Maximize the firm's beta.
2. Stocks with a beta of zero offer an expected return of zero.
  - a. True
  - B. False
3. (2 points) If the risk-free rate is 7 percent, the expected return on the market is 10 percent, and the expected return on Security J is 13 percent, what is the beta of Security J?
  - a. 1.0
  - b. 1.5
  - c. 2.0
  - d. 2.5
  - e. 3.0
4. (2 points) The current price of a 10-year, \$1,000 par value bond is \$1,158.91. Interest on this bond is paid every six months, and the nominal annual yield is 14 percent. Given these facts, what is the annual coupon rate on this bond?
5. (2 points) The common stock of Darkover Inc. just paid an annual dividend of \$1.00. The dividend is expected to grow at a constant rate forever. The required rate of return for this stock is 12 percent. If the current price of the stock is \$15.00 what is the expected growth rate of the dividends?
6. (2 points) Mack Industries just paid a dividend of \$1.00 per share (i.e.,  $D_0 = \$1.00$ ). Analysts expect the company's dividend to grow 20 percent this year (i.e.,  $D_1 = \$1.20$ ), and 15 percent next year. After two years the dividend is expected to grow at a constant rate of 5 percent. The required rate of return on the company's stock is 12 percent. What should be the current price of the company's stock?

7. What is the optimal dividend structure? Why?

8. Operating Risk is more controllable than Financial Risk.

- a. True                      b. False

9. In a perfect capital market, the WACC is constant, regardless of the proportion (%) of debt.

- a. True                      b. False

10. For most companies, dividends per share are more stable than earnings per share.

- A. True                      B. False

11. (2 points) Match the term with the date:

- |                        |                   |
|------------------------|-------------------|
| Record Date _____      | a. April 26, 2001 |
| Payment Date _____     | b. May 12, 2001   |
| Ex-Dividend Date _____ | c. June 7, 2001   |
| Declaration Date _____ | d. May 15, 2001   |

12. Your firm has the following income statement:

Sales	2500
Variable Costs	<u>1300</u>
EBIT	1200
Interest	<u>400</u>
EBT	800
Taxes	<u>320</u>
Net Income	480

For your firm:

- Operating leverage is higher than financial leverage.
- Financial leverage is higher than operating leverage.
- Total leverage is greater than financial leverage.
- Total leverage is less than operating leverage.
- We can make no statement about operating leverage or financial leverage without also being able to review the balance sheet.

12. (Point values are as listed) Use the following information for the next several questions. Consider a world of perfect capital markets. This world has no corporate or personal taxes, all investors have homogeneous expectations, no bankruptcy costs, and M&M's no-tax theory of capital structure is true.

Company Y is financed has the following market value balance sheet:

Assets = \$ 291	Liabilities = \$81
	Equity = \$210

The firm had \$25 in EBIT last year. The firm has 30 shares outstanding. The firm expects this same return for the foreseeable future. The firm is a zero growth firm, that pays out all excess earnings as dividends. Any time the firm changes its capital structure, it changes only the debt/equity mix and does not change its total assets. The firm's liabilities consists entirely of perpetual debt. The firm's debt is risk-less, perpetual, selling at par, and has a 5% yield. If the firm were to change its capital structure, new debt would still have a 5% yield. The expected return on the market is 14%. Given this information, answer the following questions:

- (2 points) What is the firm's return on equity?
- (2 points) What is the firm's current weighted average cost of capital.
- (2 points) What is the current price per share?
- (2 points) What is the beta of the firm's equity?

Now assume that the above firm issues enough equity to repurchase all of the firm's debt. This change in capital structure reveals no new information about future firm prospects.

- (2 points) What is the overall firm's new WACC?
- (2 points) Write out the firm's new balance sheet.
- (Fill in the blank with one of the suggested answers, 1 points each) Now assume the firm issued an additional \$200 in debt and used the funds to repurchase equity. Under this scenario, the required rate of return on the equity would \_\_\_\_\_ (be lower/be higher/be unchanged), while the overall WACC of the firm would \_\_\_\_\_ (be lower/be higher/be unchanged).

13. Now consider a DIFFERENT COMPANY in a world that of perfect capital markets, with one change, CORPORATE TAXES DO EXIST. This world has no personal taxes, all investors have homogeneous expectations, no bankruptcy costs, and M&M's with corporate taxes theory of capital structure is true. Company Y is financed has the following market value balance sheet:

$$\begin{array}{ll} \text{Assets} = \$ 180 & \text{Liabilities} = \$ 0 \\ & \text{Equity} = \$ 180 \end{array}$$

The firm had \$30 in EBIT last year. The firm has 20 shares outstanding. The firm expects the same return/profits for the foreseeable future. The firm is a zero growth firm, that pays out all excess earnings as dividends. Any time the firm changes its capital structure, it changes only the debt/equity mix and does not change its total assets. Liabilities consist only of the firm's debt. The debt is riskless, perpetual, selling at par, and has a 8% pre-tax yield. If the firm were to change its capital structure, new debt would still have a 8% pre-tax yield. The firm's tax rate is 40%. Given this information, answer the following questions:

a. (2 points) What is the current expected return on the firm's equity?

b. (2 points) What is the firm's current dividends per share?

Now assume the firm issue \$50 in debt and repurchases \$50 in equity.

c. (2 points) Write out the firm's new balance sheet after all of the changes.

d. (2 points) What is the value of the firm's tax shield due to the use of perpetual debt?

e. (2 points) What is the firm's Weighted Average Cost of Capital?

14. (6 points) Rolling Corporation is constructing its Cost of Capital schedule. The firm is at its target capital structure. Its bonds have a 8 percent coupon, paid semiannually, a current maturity of 13 years, and sell for \$1,037.40. Rolling' beta is 1.3, the risk-free rate is 5.4 percent, and the market risk premium is 6.5 percent. Rolling is a constant growth firm, which just paid a dividend of \$1.35, sells for \$25.00 per share, and has a growth rate of 10 percent.

The firm's book value balance sheet is as follows:

Asset	\$25,700	Long Term Debt	\$13,000
		Equity (\$.50 par)	\$1,800
		Retained Earnings	\$10,900

- What is the firm's leverage ratio?
- What is Rolling' cost of debt%?
- What is Rolling' cost of retained earnings using the Discounted Cash Flow approach?
- What is Rolling' cost of retained earnings using the Capital Asset Pricing Model approach?
- Since the cost of Retained Earnings differs with the two above approaches, what should you use as the cost of retained earnings? Explain your choice?
- Using your DCF estimate of the cost of retained earnings, what is Rolling' WACC?