Instructions:

1. Which of the following appears to be the most appropriate goal for corporate management?
   A. Maximizing market value of the company's shares.

2. The discount rate that makes the present value of a bond's payments equal to its price is termed the:
   C. current yield.

3. The dividend discount model does not hold for investors who have a preference for capital gains.
   B. False

4. The expected return on a common stock is composed of:
   C. both dividend yield and capital appreciation.

5. Consider a typical firm that uses both debt, preferred stock, and equity in its capital structure. For this typical firm with a given capital structure, which of the following is correct? (Note: All rates are after taxes.)
   e. none of the above is correct.

6. List the reinvestment rate assumption for the following capital budgeting methods (1 point each).

   Reinvestment rate assumption
   
   Net Present Value = WACC
   Internal Rate of Return = IRR
   Profitability Index = WACC
   Payback Period = none

7. Projects that are calculated as having negative NPVs should be:
   D. rejected or abandoned.

8. If two projects offer the same, positive NPV, then:
   D. they add the same amount to the value of the firm.

9. Which of the following statements about the cost of capital is incorrect?
   c. If a company's tax rate increases, then, all else equal, its weighted average cost of capital will increase

10. Which of the following cash flows are relevant to a capital budgeting cash flow analysis?

   Check the relevant line
   
   a. increase in retained earnings. Not Relevant ________
   b. sunk costs. Not Relevant ________
   c. interest expense Not Relevant ________
   d. tax credit on purchase of new equipment Relevant ________
11. What is the best capital budgeting rule? Why?

NPV, most consistent with maximizing shareholder wealth.

12. The following table lists the capital budgeting analysis of four different, mutually exclusive projects with an equal life:

<table>
<thead>
<tr>
<th>Project</th>
<th>NPV</th>
<th>IRR</th>
<th>Cost of Capital (based on project’s beta)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$3,000</td>
<td>10.5% and 17%</td>
<td>11%</td>
</tr>
<tr>
<td>B</td>
<td>$5,050</td>
<td>13.4%</td>
<td>12%</td>
</tr>
<tr>
<td>C</td>
<td>$4,800</td>
<td>14.4%</td>
<td>13%</td>
</tr>
<tr>
<td>D</td>
<td>$3,100</td>
<td>21.5%</td>
<td>14%</td>
</tr>
</tbody>
</table>

Which project(s) should you choose? B, it has the highest NPV

13. For normal projects, which of the following statement is incorrect?
   a. Assuming a project has normal cash flows (that is, the initial cash flow is negative, and all other cash flows are positive), the NPV will be positive if the IRR is less than the cost of capital.

14. List 4 (of 12) real-world factors that are on the textbook’s checklist for capital structure decisions?

   Sales stability, asset structure, operating leverage, growth rate, profitability, taxes, control of firm issues, management attitudes towards debt, lender/rating agency attitudes, market conditions, internal conditions, financial flexibility.
4. (4 points) Chadmark Corporation is expanding rapidly, and it currently needs to retain all of its earnings, hence it does not pay any dividends. However, investors expect Chadmark to begin paying dividends, with the first dividend of $0.75 coming 2 years from today. The dividend should grow rapidly, at a rate of 40 percent per year, during Years 3 and 4. After Year 4, the company should grow at a constant rate of 10 percent per year. If the required return on the stock is 16 percent, what is the value of the stock today?

$16.93, where \( d_3 = 1.05, d_4 = 1.47 \), expected selling price at \( t_4 = 26.95 \)

USE THE FOLLOWING INFORMATION TO ANSWER QUESTIONS 5 – 7 (4 points each)

The director of capital budgeting for See Saw Inc., manufacturers of playground equipment, is considering a plan to expand production facilities in order to meet an increase in demand. He estimates that this expansion will produce a rate of return of 11 percent. The firm’s target capital structure calls for a debt/equity ratio of 0.8 (market values). See Saw currently has a bond issue outstanding which will mature in 25 years and has a 7 percent annual coupon rate. The bonds are currently selling for $804. The firm has maintained a constant growth rate of 6 percent. See Saw’s next expected dividend (\( D_1 \)) is $2 and its current stock price is $40. Assume that there is no preferred stock outstanding and that any new debt will have a 25-year maturity. Its tax rate is 40 percent.

5. What is the after-tax cost of debt?

5.39%

6. What is the after tax cost of equity?

11%

7. Should it undertake the expansion?

e. Yes; the expected return is 2.5 percentage points higher than the cost of capital.

9. (4 points each) Simon Software Co. is trying to estimate its optimal capital structure. Right now, Simon has a capital structure that consists of 40 percent debt and 60 percent equity. The risk free rate is 6 percent and the market risk premium, \( \kappa_M - \kappa_{RF} \), is 5 percent. Currently the company’s cost of equity, which is based on the CAPM, is 12 percent and its tax rate is 40 percent.

a. What is Simon’s unlevered beta?

.857

b. What would be Simon’s estimated cost of equity if it were to change its capital structure to 70 percent debt and 30 percent equity? (Note if you are unable to calculate the unlevered beta, assume the unlevered beta is .65)

2.06 beta implies 16.28%
NYT Corporations is considering a project that will pay nothing for the first five years, $40,000 in the sixth year, $80,000 in the seventh year, $120,000 in the eighth year, $160,000 in the ninth year, and $200,000 in the tenth year. The appropriate discount rate is 8.8% and the project requires an investment tomorrow of $250,000 if we accept the project.

10. (4 points) The payback period for this investment is
   d. between 8 and 9 years.

11. (4 points) What is the IRR for this investment?
   10.74%

The H-Var Corp. is considering making the following capital investment in a new machine which has an estimated useful life of 3 years. The machine will be depreciated according to the MACRS recovery allowances for a 3-year class investment, resulting in depreciation of 33%, 45%, 15%, and 7% respectively in years 1 through 4. The initial cost of the machine is $100,000 plus $20,000 shipping and installation. The machine will result in an annual operating savings of $50,000 per year, and will allow a reduction in inventory of $9,500 over the useful life of the machine. After 3 years, inventory will return to its previous level. It is estimated that the machine can be sold for its salvage value of $7,000 at the end of 3 years. The firm's marginal tax rate is 40%.

12. (4 points) What is the net cash investment in Year 0 (CF0) for H-Var if H-Var purchases the new machine? -110.5

13. (4 points) What is the net operating cash inflow for H-Var in Year 2 if H-Var purchases the new machine? 51.6

14. (4 points) What is the additional (non-operating) cash flow at the end of the project (i.e., in Year 3)? -1.94

15. (4 points) What is the NPV of the project? +.308

16. (2 points) Should H-Var do this project? Yes