Sample questions:

Closed Book

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.

10. Consider the following independent projects, for a firm using a discount rate of 10%:

<table>
<thead>
<tr>
<th>Project</th>
<th>Initial Investment</th>
<th>NPV</th>
<th>IRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$1,000,000</td>
<td>$100,000</td>
<td>10.2%</td>
</tr>
<tr>
<td>B</td>
<td>$100</td>
<td>$1</td>
<td>11%</td>
</tr>
<tr>
<td>C</td>
<td>$50,000</td>
<td>$70,000</td>
<td>23%</td>
</tr>
<tr>
<td>D</td>
<td>$200,000</td>
<td>$24,000</td>
<td>13%</td>
</tr>
</tbody>
</table>

Which project should the firm accept?
   a. Project A  
   b. Project B  
   c. Project C  
   d. Project D  
   e. The firm should accept all of these projects.

11. For a long-term capital budgeting project, expensing an item rather than capitalizing an item will most likely not affect the total cash flows of a project. However, expensing the item will raise the project’s calculated Net Present Value.
   a. True  
   b. False

12. (2 points) Match the Capital Budgeting method with the assumed reinvestment rate (answers may be used more than once).
   a. Net Present Value ____________  
   b. Internal Rate of Return ______________  
   c. Profitability Index _______________  
   d. Payback Period ________________

   a. Internal Rate of Return  
   b. Cost of Capital  
   c. Return on Investment  
   d. Return on Equity  
   e. None of the above.

8. The present value of the expected net cash inflows for a project will most likely exceed the present value of the expected net profit after tax for the same project because:
   a. Income is reduced by taxes paid, but cash flow is not.  
   b. There is a greater probability of realizing the projected cash flow than the forecasted income.  
   c. Income is reduced by dividends paid, but cash flow is not.  
   d. Income is reduced by depreciation charges, but cash flow is not.  
   e. Cash flow reflects any change in net working capital, but sales do not.

9. (3 points) Consider the following information about Ihouro, Inc. If the annual capital budget is less than $1,500,000, the cost of capital is 9%. If the annual capital budget is more than $1,500,000, then the cost of capital is 12%. You are considering the following projects:

   **Circle the letters of the projects that should be accepted.**

<table>
<thead>
<tr>
<th>Project</th>
<th>Initial Investment</th>
<th>NPV @ 9%</th>
<th>NPV @ 12%</th>
<th>IRR</th>
<th>PI @ 9%</th>
<th>Payback</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>$1,000,000</td>
<td>$100,000</td>
<td>($97,000)</td>
<td>10.2%</td>
<td>1.04</td>
<td>3 years</td>
</tr>
<tr>
<td>B</td>
<td>$400,000</td>
<td>($75,000)</td>
<td>($195,000)</td>
<td>197.8%</td>
<td>.94</td>
<td>Never</td>
</tr>
<tr>
<td>C</td>
<td>$150,000</td>
<td>$25,000</td>
<td>$11,000</td>
<td>23%</td>
<td>1.32</td>
<td>1 year</td>
</tr>
<tr>
<td>D</td>
<td>$250,000</td>
<td>$44,000</td>
<td>$7,000</td>
<td>12.4%</td>
<td>1.13</td>
<td>5 years</td>
</tr>
<tr>
<td>E</td>
<td>$215,000</td>
<td>$51,000</td>
<td>$18,000</td>
<td>3.7%</td>
<td>1.19</td>
<td>3 years</td>
</tr>
<tr>
<td>F</td>
<td>$230,000</td>
<td>($19,000)</td>
<td>($33,500)</td>
<td>7.4%</td>
<td>.91</td>
<td>6 years</td>
</tr>
</tbody>
</table>
10. Two of your classmates are evaluating a project with the following net cash flows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-$10,000</td>
</tr>
<tr>
<td>1</td>
<td>$100,000</td>
</tr>
<tr>
<td>2</td>
<td>-$100,000</td>
</tr>
</tbody>
</table>

One classmate says that the project has an IRR of between 12 and 13%. The other classmate calculates an IRR of just under 800%, but fears his calculator’s battery is low and may have caused an error. You agree to settle the dispute by analyzing the project cash flows. Which statement best describes the IRR for this project?

a. There is a single IRR of approximately 12.7 percent.
b. This project has no IRR, because the NPV profile does not cross the X axis.
c. This project has two imaginary IRRs.
d. There are an infinite number of IRRs between 12.5 percent and 790 percent that can define the IRR for this project.
e. There are multiple IRRs of approximately 12.7 percent and 787 percent.

11. The primary advantage of accelerated depreciation over straight-line depreciation is that the total, undiscounted, depreciation tax savings over the life of the project are greater when an accelerated depreciation method is used.

a. True  b. False

12. A firm which bases its capital budgeting decisions on either NPV or IRR will be more likely to accept a given project if it uses MACRS accelerated depreciation than if it uses the optional straight-line alternative, other things being equal.

a. True  b. False

Open Book

8. (20 points) Seinfeld Creative Productions is evaluating the construction of a studio complex. The planned site is currently valued at $400,000 but this parcel would not need to be purchased since Seinfeld already owns it. (If the company does not use the parcel for this project, it will be sold today for its current value). Jerry got lucky when he bought the land as he only paid $70,000 in 1991.

The studio construction would cost Seinfeld $1 million and would be depreciated for tax purposes using the 10-year MACRS schedule. Costanza & Benis, LLP is retained as the creative consultant of this project. George Costanza is due $25,000 in fees next month for services already rendered in the design stage. If Seinfeld launches the project Elaine Benis will need to perform additional services, her fee for these services will be $35,000.

It is expected that the studio will increase Seinfeld’s short-movie production by 3 new releases every year with each of them to bring in $90,000 per year in royalty fees. Thus in year 1 there are 3 movies, in year 2 there are 6 movies and so on, until the project ends. However, Seinfeld must pay $30,000, per film, per year, in residuals to the other actors. The operation of the studio will necessitate additional marketing expenditures of $100,000 per year and other general expenses of $50,000 per year. Due to the time needed to run the studio, Jerry Seinfeld would need to stop doing stand-up comedy engagements. He currently earns about $50,000 per year doing standup. Seinfeld would need a one-time inventory increase (primarily raw film stock and finished movie prints) of $150,000. His suppliers will let him maintain account payable of $80,000. He will allow customers to pay with a short lag, thus giving an average accounts receivable balance of $90,000. These amounts would be recovered at the end of the life of the project.

At the end of the project, Seinfeld Productions expects to be able to sell the site parcel for $700,000. However, before the land could be sold, Seinfeld would need to pay about $200,000 to demolish the studio building. At the end of the project, Jerry will be able to sell all future rights to the films for $700,000.
The marginal tax rate of Seinfeld is 40%. For purposes of identifying the timing of cash flows, consider all project related cash flows to occur at the end of the year. The construction will be completed this year, the first year of operations is the year 2001, and project will operate for 8 years.

Should Jerry Seinfeld continue doing standup or build the studio. Note the correct answer is worth 1 points, showing your work on how your arrived at the correct answer is worth 19 points.

7. (4 points) Your required rate of return is 11%. If you invest $250 today you will receive the following cash flows:

<table>
<thead>
<tr>
<th>Year</th>
<th>Cash Flow</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$97</td>
</tr>
<tr>
<td>2</td>
<td>$65</td>
</tr>
<tr>
<td>3</td>
<td>$99</td>
</tr>
<tr>
<td>4</td>
<td>$152</td>
</tr>
</tbody>
</table>

What is the IRR of the project? What is the payback of the project?

10. (15 points) Parker Products manufactures a variety of household products. The company is considering introducing a new detergent. The company's CFO has collected the following information about the proposed product. (Note: You may or may not need to use all of this information, use only the information that is relevant.)

- The project has an anticipated economic life of 4 years.
- The company will have to purchase a new machine to produce the detergent. The machine has an up-front cost (t = 0) of $2 million. The machine is in the 7-year MACRS class. The company anticipates that the machine will have a salvage value will equal to $175,000.
- If the company goes ahead with the proposed product, it will have an effect on the company's net working capital. At the outset, t = 0, inventory will increase by $140,000 and accounts payable will increase by $40,000. At t = 4, the net working capital will be recovered after the project is completed.
- The detergent is expected to generate sales revenue of $1 million the first year (t = 1), $2 million the second year (t = 2), $4 million the third year (t = 3), and $8 million the final year (t = 4). The project will add fixed costs to the company of $1,000,000. The variable cost of production (not including depreciation) are expected to equal 50 percent of sales.
- The company's interest expense each year will be $100,000.
- The new detergent is expected to reduce the sales of the company's existing products by $250,000 a year (t = 1, 2, 3, and 4). These existing products have the same production cost factors as our new detergent.
- Because the project is expected to be profitable, the CEO has assigned the entire Company’s advertising budget to this project. Advertising is $1,500,000 per year.
- The company's cost of capital (i.e., the required rate of return on this project) is 10 percent.
- The company's tax rate is 40 percent.

Should the company accept this project? The correct answer is worth 1 point and the supporting work is worth 19 points.