Valuation of Intellectual Property
IPSI – 2005

Final Examination – 1 hour

This is an open-book examination. You may use the course materials, your lecture notes, a calculator and scratch sheets when necessary. Students for whom English is a second language may also use a language dictionary.

The examination comprises:

10 multiple choice questions	(4 points each)	40 points
10 true/false questions	(2 points each)	20 points
8 short answer questions	(5 points each)	40 points
Total Points		100

Mark your answers on these pages. Only these pages will be graded.

Note the attached financial statements for FPLC, Inc.

10 Multiple Choice Questions – There may be more than one correct answer to each question. Circle the letter associated with the correct answers. Be sure you mark **all** of the correct answers.

1. The income approach to valuation requires which of the following inputs:

   a. An estimate of physical deterioration
   b. A discount rate reflecting appropriate risk
   c. The amount of income
   d. An analysis of comparability with other properties

2. Guided by the "business enterprise equation," which of the following are equivalent to the value of a of business enterprise:

   a. The total assets shown on the balance sheet
   b. The book value of common equity plus net working capital
   c. The value of long-term debt plus the value of common stock
   d. The value of monetary plus tangible plus intangible assets

3. There are many reasons why a valuation of intellectual property may be undertaken. Among them are:

   a. International transfer pricing issues
   b. Allocation of purchase price to conform to FASB 141 & 142
   c. Assistance in deciding how best to exploit the IP
   d. To assist in bankruptcy proceedings

4. If we are engaged to value computer software developed by a business for sale as a product, we are most likely to base our appraisal on:

   a. The trended original cost of the software
   b. A capitalization of the economic benefit of the software
   c. The software's cost of replacement less physical, functional and economic obsolescence
   d. The current cost that would be incurred to develop the software.

5. If we are called upon to render an opinion of damages in a patent infringement case, we would consider how the alleged infringement affected:

   a. The level of the plaintiff's sales
   b. The number of product units sold by the plaintiff
   c. The price per unit of the plaintiff's products
   d. The market value of the plaintiff's business enterprise

6. What is the market value (in $ millions) of the FPLC, Inc. monetary assets at December 31, 2004?

   a. $5,461
   b. $1,511
   c. $1,291
   d. None of the above

7. You have calculated the present value of the future economic benefit associated with the exploitation of some copyrighted software. You then receive information indicating that competition in the market niche of this software will be much stronger than you originally thought. How will this change your present value calculation?

   a. You will reduce the discount rate and the value will be lower
   b. You will increase the discount rate and the value will be lower
   c. You will increase the discount rate and the value will be higher
   d. You will reduce the discount rate and the value will be higher

8. An appraisal must include which of the following:

   a. The "as of date" of the value opinion
   b. The purpose of the appraisal
   c. The premise of value
   d. A description of your client's business

9. Which of the following sources of capital would be available to a start-up company for the development of newly patented biotechnology:

   a. Sale of bonds
   b. Loan from a money-center bank
   c. Equity investments from individuals
   d. Venture capital firms

10. In estimating the amount of future economic benefit that technology IP might provide, we would consider which of the following:

    a. Potential for licensing in addition to self-exploitation
    b. Its potential for enhancing product prices
    c. Its potential for reducing labor costs
    d. The cost of commercializing it

10 True / False Questions. Circle the "T" or "F" after each question.

1. In using the income approach we must consider both the duration of the future economic benefit and its pattern.
   T **F**

2. A "vertical" financial analysis reveals changes over time. **T** **F**

3. A licensor can reasonably expect a royalty that will capture all of the economic benefits from the licensee's exploitation. **T** **F**

4. The term "following the dollars" refers to analyzing the source of a company's revenues and the destinations of a company's expenses. **T** **F**

5. The balance sheet can sometimes provide the value of a company's intangible assets. **T** **F**

6. In a trademark infringement case, the court is likely to accept evidence of a reasonable royalty as a measure of damages. **T** **F**

7. In the "relief from royalty" technique, we use a royalty rate to estimate the income allocable to the subject IP. **T** **F**

8. The market value of the FPLC, Inc. business enterprise at December 31, 2004 was $17,488 million **T** **F**

9. A Monte Carlo simulation presents the results of many discounted cash flow calculations. **T** **F**

10. A royalty that will provide an adequate return on the cost of developing the licensed IP is the most appropriate **T** **F**

Short Answer Questions. Write your answer in the space provided. Since space is limited, plan your answer before you write.

1. You have been given the task of appraising process technology that is under development by your client. You have completed an income approach analysis and have a preliminary value conclusion. You telephone your client to set up a meeting to discuss your conclusion and learn that the pilot plant that was under construction when you visited the plant has been completed and the operating results were successful. Which of your discounted cash flow inputs might change as a result of this new information?

2. If your answer to Question 1. names some DCF inputs that would change, how would those changes affect your preliminary income approach conclusion?

3. You have been approached by a high-tech start-up that is likely to be the defendant in patent infringement litigation involving software. Your assignment would be to provide an expert opinion of damages in the event such testimony is needed. Like many start-up enterprises, this company is short of cash and has offered to pay your fee after the trial when the next round of venture capital financing becomes available. What is your response to this prospective client?

4. You have been retained to provide an opinion of the market value of a "package" of technology comprised of three patents and related know-how. The technology enables your client to include a unique feature in one of its consumer products. That feature greatly enhances the popularity of the product in a very competitive marketplace. Should your valuation include the present value of potential licensing income? Explain the reasons for your position.

5. Your client, FPLC, Inc., has asked you to provide your opinion of the current market value of two trademarks that it acquired several years ago as part of the acquisition of another company. To what extent would you rely on the amount of $2,143,000 shown on the FPLC balance sheet that it filed in a 10-K report to the SEC for December 31, 2004?

6. As part of your analysis in Question 5, you are interested in the amount that FPLC spends on advertising in support of its trademarks. Where are you likely to find that information?

7. Your client is the licensor in a transaction involving a cost-saving technology. Your client has drafted a license agreement including a royalty in the amount of 7.5% of the net sales of products made using the technology. The licensee asserts that, since this is a cost-saving technology, a royalty based on a percentage of the cost savings would be more appropriate. How do you advise your client?

8. Your client, FPLC, Inc., was so pleased with your valuation of the two trademarks referred to in Question 5. that she has asked you to appraise all 16 of the FPLC trademarks. You do a careful income approach for these marks, using individual product line financials and check the answers against some trademark arm's length sales that you know about. Your calculations indicate that the market value of these trademarks is $9.5 million. Is this a reasonable conclusion?

FPLC, Inc.
Income Statement
($millions)

Years ended December 31,	2004	2003
Net Sales	$21,465	$20,871
Cost of Products Sold	13,320	12,768
Gross Margin	8,145	8,103
Marketing, Research, Admin. Expenses	4,655	4,119
Operating Income	3,490	3,984
Interest Expense	365	490
Other Income, net	20	51
Earnings before Income Taxes	3,145	3,545
Income Taxes	1,258	1,418
Net Earnings	$1,887	$2,127
Average Common Shares Outstanding (mill)	322.7	322.7
December 31 price ($ per share)	$ 41.25	$ 44.75

FPLC, Inc.
Consolidated Balance Sheets
($millions)

Years ended December 31,	2004	2003
ASSETS		
Current Assets		
Cash	$ 614	$ 717
Investments	23	134
Accounts Receivable	1,705	1,608
Inventories		
Materials and Supplies	833	666
Work in Process	105	98
Finished Goods	1,260	1,101
Deferred Income Taxes	321	351
Prepaid Expenses	600	778
Total Current Assets	5,461	5,453
Property, Plant, and Equipment		
Buildings	1,356	1,356
Machinery and Equipment	8,567	6,254
Land	378	378
	10,301	7,988
Less Accumulated Depreciation	3,240	2,416
Total Property, Plant, and Equipment	7,061	5,572
Goodwill and Other Intangible Assets		
Goodwill	2,143	2,560
Less Accumulated Amortization	556	350
Total Goodwill and Other Intangible Assets	1,587	2,210
Total Assets	$ 14,109	$13,234
LIABILITIES and SHAREHOLDERS' EQUITY		
Current Liabilities		
Accounts Payable	1,477	1,310
Accrued Liabilities	1,587	1,453
Taxes Payable	766	577
Debt due within one year	340	602
Total Current Liabilities	4,170	3,942
Long-Term Debt	4,177	3,999
Total Liabilities	8,347	7,941
Shareholders' Equity		
Common Stock	450	450
Paid-in Capital	186	186
Retained Earnings	5,125	4,656
Total Shareholders' Equity	5,762	5,293
Total Liabilities and Shareholders' Equity	$ 14,109	$13,234