Valuation of Intellectual Property
IPSI – 2003

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
15 true / false questions	(2 points each)	30 points
3 short answer questions	(10 points each)	30 points
Total Points		100

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

Note the financial statements attached.

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. In the cost approach to valuation one must consider the following:

   a. Physical deterioration
   b. A discount rate reflecting appropriate risk
   c. Economic obsolescence
   d. Comparability with other properties

2. The "business enterprise equation," tells us that three expressions of business enterprise value are equivalent. They are:

   a. The value of the business enterprise
   b. The book value of common equity
   c. The value of long-term debt plus the value of common stock
   d. The value of monetary plus tangible plus intangible assets

3. If there is a considerable difference between the value of an asset as part of a business and its value when separated from the business, it is likely to be:

   a. An intangible asset
   b. A very versatile asset
   c. A special purpose tangible asset
   d. A very liquid asset

4. When an individual commits cash to an investment, he or she is seeking:

   a. The least amount of risk
   b. The return of that investment
   c. Long-term income
   d. A return on the investment

5. If we are engaged to value a trademark portfolio, we are most likely to utilize:

   a. The cost approach
   b. The portfolio's cost of replacement
   c. The market approach
   d. The income approach

6. If we are called upon to render an opinion of damages in a patent infringement case, we would consider:

   a. Changes in the level of the plaintiff's sales
   b. Changes in the number of product units sold by the plaintiff
   c. Changes in the per unit price of the plaintiff's products
   d. Changes in the plaintiff's SG&A expenses

7. You are valuing proprietary technology using an income approach and you have calculated the present value of what you believe are the future economic benefits of ownership. You then become aware of information that causes you to conclude that the exploitation of this IP will be less risky than you originally thought. What is the likely outcome of this change?

   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. The value of a business enterprise can be estimated by:

   a. Observing the dollars of total assets on the balance sheet
   b. Adding together the values of monetary, tangible, and intangible assets
   c. Multiplying the number of common shares by the common stock price
   d. Adding the book value of stockholders' equity to the amount of current assets

9. What is the market value (in $ millions) of the FPLC, Inc. business enterprise at December 31, 2002?

   a. $13,634
   b. $17,632
   c. $9,178
   d. $9,502

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

   a. Its effect on product quality
   b. Its potential for enhancing product prices
   c. Its potential for reducing labor costs
   d. Its economic life

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

1. An IP valuation should consider all reasonable exploitations of the property. **T F**

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

3. A licensor can reasonably expect to receive 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 net working capital of FPLC, Inc. at December 31, 2002 was $4,832 million. **T F**

6. The balance sheet can sometimes provide the value of intangible assets. **T F**

7. 49.7 percent of the value of FPLC, Inc. is represented by intangible assets. **T F**

8. In the "relief from royalty" technique, we use a royalty rate to calculate a surrogate for the income attributable to an intangible asset. **T F**

9. The economic considerations that control a licensing transaction are usually those that reflect the profitability of the licensor's business. **T F**

10. An important consideration in evaluating international transfer prices is the "arm's-length standard." **T F**

11. A Certificate of Deposit is a relatively low-risk investment. **T F**

12. The "time-value of money" principle tells us that money to be received in the near future has a higher present value than money to be received far into the future. **T F**

13. The upper limit of tangible asset value is represented by replacement cost. **T F**

14. A typical royalty base is the net income of the licensee. **T F**

15. A license controls the allocation of economic benefit between the parties. **T F**

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

1. You and a colleague are working on a valuation engagement for FPLC, Inc. Your colleague asserts that the intangible assets of FPLC are equal to the amount of $2.382 billion as shown on its balance sheet for the year 2002. Do you agree or not? Explain the reasons for your position.

2. Generally speaking, corporate bonds are judged to be less risky investments than the common stock of corporations. Why is this so?

3. Your client, FPLC, Inc., has developed proprietary technology which it is using. It has also licensed the technology to another company at a royalty rate of 12 percent of the licensee's net sales. FPLC is considering a transaction involving this intellectual property which will result in the payment of taxes. You have been retained to opine on the market value of this technology which your client asserts is very low (which would result in lower taxes). Your experience tells you that the 12 percent royalty is rather high in this industry. How likely is it that your opinion of value will agree with your client's and what are your reasons for that conclusion?

FPLC, Inc.
Income Statement
($millions)

Years ended December 31,	2002	2001
Net Sales	$18,603	$16,468
Cost of Products Sold	11,920	10,532
Gross Margin	6,683	5,936
Marketing, Research, Admin. Expenses	4,188	3,678
Operating Income	2,495	2,258
Interest Expense	365	490
Other Income, net	20	51
Earnings before Income Taxes	2,150	1,819
Income Taxes	860	728
Net Earnings	$1,290	$1,091
Average Common Shares Outstanding (mill)	322.7	322.7
December 31 price ($ per share)	$ 42.25	$ 56.75

FPLC, Inc.
Consolidated Balance Sheets
($millions)

Years ended December 31,	2002	2001
ASSETS		
Current Assets		
Cash	$ 544	$ 453
Investments	11	49
Accounts Receivable	1,608	1,457
Inventories		
Materials and Supplies	788	560
Work in Process	92	87
Finished Goods	1,100	890
Deferred Income Taxes	234	221
Prepaid Expenses	455	580
Total Current Assets	4,832	4,297
Property, Plant, and Equipment		
Buildings	1,356	1,356
Machinery and Equipment	7,444	6,112
Land	378	378
	9,178	7,846
Less Accumulated Depreciation	2,567	2,416
Total Property, Plant, and Equipment	6,611	5,430
Goodwill and Other Intangible Assets		
Goodwill	2,382	2,382
Less Accumulated Amortization	460	350
Total Goodwill and Other Intangible Assets	1,922	2,032
Total Assets	$ 13,365	$11,758
LIABILITIES and SHAREHOLDERS' EQUITY		
Current Liabilities		
Accounts Payable	1,355	894
Accrued Liabilities	1,459	1,780
Taxes Payable	623	315
Debt due within one year	426	557
Total Current Liabilities	3,863	3,546
Long-Term Debt	3,998	3,999
Total Liabilities	7,861	7,545
Shareholders' Equity		
Common Stock	450	450
Paid-in Capital	186	186
Retained Earnings	4,867	3,577
Total Shareholders' Equity	5,504	4,213
Total Liabilities and Shareholders' Equity	$ 13,365	$11,758