Valuation of Intellectual Property
IPSI - 2000

Final Examination - 1 hour

This is a closed-book, no notes examination. You may use a calculator and scratch sheets when necessary. Students for whom English is a second language may also use a language dictionary.

The examination comprises:

15 multiple choice questions	(4 points each)	60 points
10 true / false questions	(2 points each)	20 points
2 short answer questions	(10 points each)	20 points
Total points		100

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

Note the financial statements attached for your use.

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

1. Business enterprise value is equal to:

    a. Current assets less current liabilities
    b. The value of monetary plus tangible plus intangible assets
    c. The value of invested capital
    d. The value of stockholders' equity

2. You have made a five-year forecast of cash flow for FPLC, Inc. and calculated its present value to be $5 million. Which of the following changes would increase the present value?

    a. Increase the discount rate
    b. Defer cash flow from year 1 to year 4
    c. Increase the cash flow in year 5
    d. Accelerate the cash flow from year 3 to year 2

3. The single, most important factor that you must consider in the valuation of intangible assets or intellectual property is:

    a. The profitability of the company owning it
    b. The economic benefit it provides
    c. The cost of its development
    d. The degree of its legal protection

4. The risk associated with investing in tangible assets is generally less than investing in:

    a. Inventory
    b. Software
    c. Brand development
    d. Working capital

5. Which of the following are reasons why a valuation of intellectual property may be undertaken?

    a. To allocate the purchase price after an acquisition of a company
    b. To assist a buyer or seller
    c. To establish the amount of damages in an infringement litigation
    d. To assist in setting up a holding company

6. The 1999 balance sheet for FPLC, Inc. shows an amount for "Goodwill" of $ 1,305 million. What does this represent?

   a. The December 31, 1999 value of FPLC intangible assets
   b. A portion of the purchase price in previous acquisitions
   c. The unamortized cost of self-developed intangible assets
   d. The difference between FPLC's market value and the value of its tangible assets

7. Your client, a start-up e-commerce company, must obtain financing to pay for software development and advertising. Which of the following are unlikely capital sources?

   a. Investment by a venture capital firm
   b. Loan from a pension fund
   c. Sale of stock to individual wealthy investors
   d. Loan from a bank

8. You have been retained by FPLC, Inc to express an opinion on the fair market value of its patent portfolio. What valuation technique are you most likely to use?

   a. A capitalization of the income attributable to the patents
   b. The estimated cost of replacement of the patents
   c. A calculation of the historical research and development expense
   d. An estimate based on the net book value of the patents

9. FPLC, Inc. wishes to enter into a license with Chemco Co. in which FPLC will grant Chemco the right to use technology which it has patented, but not yet commercialized. You have been asked by FPLC to advise on a royalty rate for this transaction. What information would you consider it important to obtain?

   a. The expenses incurred by FPLC to develop the technology
   b. An estimate of the economic benefit of the technology to Chemco
   c. The net income of FPLC
   d. The cost likely to be incurred by Chemco to commercialize the technology

10. What are typical characteristics of monetary assets?

   a. They require a lower rate of return than most other assets
   b. They are more versatile than other assets
   c. Investing in them carries more risk
   d. They can be developed using debt capital

11. Fair market value can be defined as:

    a. The price that a willing buyer and seller would agree upon.
    b. Original cost less accounting depreciation.
    c. The present value of the future economic benefits of ownership.
    d. Reproduction cost less physical deterioration.

12. In order to employ a market approach in valuing an intangible asset as part of a business enterprise, we should use data from:

    a. The sales of comparable property
    b. Property transactions between related parties
    c. Transactions that involved an orderly liquidation
    d. Transactions that only involved the exchange of cash

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

    a. Adding together long-term debt and stockholders' equity from the balance sheet
    b. Adding together the values of monetary, tangible and intangible assets
    c. Adding together the values of long-term debt and stockholders' equity
    d. Multiplying the common stock price by the number of shares

14. Which of the following would be considered unethical contingent fees for an appraiser?

    a. A fee based on the client obtaining a bank loan
    b. A fee in the form of options to purchase stock at a later date
    c. Withholding a portion of the fee for services pending successful appearance as an expert witness
    d. A not-to-exceed fee

15. What is meant by the expression, "follow the dollars"?

    a. Serve clients who are willing to pay the most
    b. Observe a business's expenditures to get insight into what assets are being developed
    c. Historical costs are the best indicator of asset values
    d. Future expenditures will follow the pattern of past expenditures

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

1. An income statement informs us about financial transactions during one accounting period (typically one year). **T F**

2. Financial statements inform us about the costs of past transactions. An appraisal informs us about the economic result of those transactions. **T F**

3. The terms Cost of Replacement and Cost of Reproduction are interchangeable. **T F**

4. The more uncertainty there is about receiving a potential economic benefit from intellectual property, the lower the discount rate we would use in an income approach valuation. **T F**

5. In the "relief from royalty" technique, we use a royalty amount as a surrogate for the income attributable to an intangible asset. **T F**

6. The amount of $3,792 at December 31, 1999 represents the original cost of FPLC's tangible assets. **T F**

7. FPLC capital structure at December 31, 1999 was 27.2% long-term debt and 72.8% stockholders' equity. **T F**

8. The price/earnings ratio for FPLC at December 31, 1999 was 26.4 times. **T F**

9. FPLC monetary asset value at December 31, 1999 was $847 million **T F**

10. The value of FPLC stockholders' equity at December 31, 1999 was $4,213 million. **T F**

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

1. FPLC's negotiations for the license described in Question # 9 have stalled. Chemco is concerned about whether its efforts to commercialize the technology will be successful, and has said that it would only be willing to pay an extremely low royalty as a result. What concessions can FPLC propose that might make this license more attractive to Chemco and to increase its future royalty income?

   How would you evaluate whether these FPLC proposals make economic sense?

2. The manager of R&D for your client, Semiconductors, Inc., has developed an innovative manufacturing technique that could significantly improve manufacturing throughput of a new generation chip that is nearing commercial production. She is eager to patent this potentially profit-enhancing innovation, even though patent prosecution is likely to be time-consuming and expensive. A business decision must be made whether to allocate resources to obtain this patent.

   How do you advise this client, and what are your reasons?

FINANCIAL DATA - FPLC, Inc.

FPLC, Inc.
Consolidated Balance Sheets
($millions)

Years ended December 31,	1999	1998
ASSETS		
Current Assets		
Cash	$ 783	$ 691
Investments	253	149
Accounts Receivable	913	947
Inventories		
Materials and Supplies	377	418
Work in Process	76	70
Finished Goods	576	555
Deferred Income Taxes	220	199
Prepaid Expenses	397	573
Total Current Assets	3,595	3,602
Property, Plant, and Equipment		
Buildings	1,136	1,123
Machinery and Equipment	4,882	4,725
Land	190	190
	6,208	6,037
Less Accumulated Depreciation	2,416	2,331
Total Property, Plant, and Equipment	3,792	3,706
Goodwill and Other Intangible Assets		
Goodwill	1,305	1,392
Less Accumulated Amortization	350	330
Total Goodwill and Other Intangible Assets	955	1,062
Total Assets	$ 8,342	$ 8,370
LIABILITIES and SHAREHOLDERS' EQUITY		
Current Liabilities		
Accounts Payable	734	745
Accrued Liabilities	1,416	1,555
Taxes Payable	315	164
Debt due within one year	283	372
Total Current Liabilities	2,748	2,836
Long-Term Debt	1,381	1,557
Total Liabilities	4,129	4,393
Shareholders' Equity		
Common Stock	450	457
Paid-in Capital	186	98
Retained Earnings	3,577	3,422
Total Shareholders' Equity	4,213	3,977
Total Liabilities and Shareholders' Equity	$ 8,342	$ 8,370

FINANCIAL DATA - FPLC, Inc. (CONTINUED)

FPLC, Inc
Income Statement
($millions)

Years ended December 31,	1999	1998
Net Sales	$11,921	$11,761
Cost of Products Sold	6,772	6,921
Gross Margin	5,149	4,841
Marketing, Research, Admin. Expenses	3,320	3,236
Operating Income	1,829	1,605
Interest Expense	152	161
Other Income, net	73	113
Earnings before Income Taxes	1,750	1,556
Income Taxes	611	541
Net Earnings	$1,138	$1,015
Average Common Shares Outstanding (mill)	360.3	360.3
December 31 price ($ per share)	$83.50	$ 68.75