

Name _____

ID# _____

Accounting 15. 501/516

Spring 2004

Midterm 2

Exam Guidelines

- 1. Fill in your name above. Exams without names will not be graded. If you do not have an ID number, leave the corresponding space blank.**
- 2. You are not allowed to refer to any material in answering this exam.**
- 3. The exam has to be completed in 80 minutes. The total number of points is also 80, so you have approximately 1 point / minute. Budget your time accordingly.**
- 4. Work in a clear, readable manner. Ample space is provided for every answer.**
- 5. Write answers in the space provided. Unreadable answers will not be graded.**
- 6. Show computations for partial credit.**
- 7. If you feel assumptions are necessary to answer a question, state all assumptions clearly.**
- 8. Laptops and computers are prohibited. You may use calculators.**
- 9. Do not fill in the following table.**

Question	Total points	Points lost
1: Long-Lived assets	20	
2: Marketable Securities	20	
3: Long-Term Debt	20	
4: Lease	20	
Total	80	

QUESTION I: PP&E, DEPRECIATION, AND DEFERRED TAXES (20 POINTS)

Fabercornbie & Itch (F&I) Inc. is a growing retail chain of 57 stores in the U.S. You discover from looking at F&I's footnotes on long-lived assets that there were new investments in PP&E during 2003 for \$100,000. Additional information is available in the company's December 31, 2003 annual report. The company's fiscal year ends on December 31st every year.

	<u>2002</u>	<u>2003</u>
Deferred tax liabilities related to PP&E	3,341	4,341
Corporate tax rate	50.0%	50.0%

Information from Indirect Statement of Cash Flows

Operating activities section: Depreciation expense	30,000
Investing activities section: <i>Net</i> cash outflow from purchases and sale of PP&E	-97,205

A. What is the value of cash inflow from asset sales for F&I in 2003?

3 points

Cash inflow from asset sales = Net cash outflow on investing from purchases and sales – Cash outflow on new investments = $-97,205 - (-100,000) = 2,795$

Note: There should be no confusion about the sign of net cash outflow. The information is from the Cash Flow Statement. On the Cash Flow Statement, outflows are reported as negative numbers.

B. Assume asset sales in 2003 comprised entirely of the sale of a single piece of equipment on Dec 31st, 2003. This equipment had been bought on Jan 1st, 1993 for a price of \$33,330. The estimated useful life of this equipment is twelve years and the estimated salvage value is \$930. What is the book value of this equipment right before it is sold on Dec 31st, 2003?

6 points

Depreciation per year = (Acquisition cost – Salvage Value)/Estimated life
= $(33,330 - 930)/12 = 2,700$

Accumulated depreciation at the end of 2003 = $2,700 * 11 \text{ years} = 29,700$

Book value at the end of 2003 = $33,330 - 29,700 = 3,630$

C. Using the information provided in Parts A and B, what is the journal entry to record the sale of PP&E on Dec 31st, 2003? Assume the sale occurs for cash.

6 points

Dr Cash	2,795	
Dr Accumulated depreciation	29,700	
Dr Loss on sale of assets	835	
Cr PP&E		33,330

D. What is F&I's tax depreciation for 2003?

5 points

$$\begin{aligned} &(\text{Tax depreciation} - \text{Book depreciation}) * (\text{tax rate}) = \text{Change in Deferred Tax Liability} \\ \text{Tax depreciation} &= [(4,341 - 3,341)/0.50] + \text{Book depreciation} \\ &= 32,000 \end{aligned}$$

QUESTION II: MARKETABLE SECURITIES (20 POINTS)

F&I Inc. makes an investment in two marketable securities on Jan 1st, 2003: Macrotough Industries and Specific Motors. F&I intends to sell both securities on January 15th, 2004. The company's fiscal year ends on Dec 31st and the company makes adjusting entries at the end of every year.

Right after the investment, the CFO of F&I consults the auditors on the classification of these securities. The auditors give F&I two choices.

Choice (1): Classify Macrotough as "Trading" and Specific Motors as "AFS".

Choice (2): Classify Macrotough as "AFS" and Specific Motors as "Trading".

The CFO prepares the following chart that includes forecasts of market values of the two investments, along with the cost at which the investments were made:

Security	Actual investment on 01/01/2003	Value of investment forecasted for 12/31/2003	Value of investment forecasted for 01/15/2004
Macrotough Industries	11,150	14,151	17,019
Specific Motors	14,266	20,001	26,661

Assume these are F&I's only two security investments and the corporate tax rate is 50%.

- A. If the CFO's security price forecasts turn out to be exactly correct and F&I sells both securities on Jan 15th, 2004, under which classification scheme will reported pre-tax Net Income in 2004 be higher? Use the tables provided below to arrive at your answer. Ignore tax effects for this question.**

14 points

Choice (1): Classify Macrotough as *Trading*, Specific Motors as *AFS*

	2003	2004
Gain/(loss) in Income Statement on Macrotough	3,001	2,868
Gain/(loss) in Income Statement on Specific Motors	0	12,395
Total	3,001	15,263

Choice (2): Classify Macrotough as *AFS*, Specific Motors as *Trading*

	2003	2004
Gain/(loss) in Income Statement on Macrotough	0	5,869
Gain/(loss) in Income Statement on Specific Motors	5,735	6,660
Total	5,735	12,529

2004 Net Income will be higher from Choice (1): classifying Macrotough as *Trading*, Specific Motors as *AFS*.

B. If the forecasts turn out to be correct, and F&I sells both securities on Jan 15th, 2004, what is the balance in the Deferred Tax Liability account related to Marketable Securities at the end of 2003 under each classification scheme?

6 points

Deferred tax liability is independent of AFS versus Trading classification.

Therefore, under either classification scheme, balance in Deferred Tax Liability Account at the end of 2003 =

$$[\text{All pre-tax unrealized gains, both in Income Statement and Other Equity}] * \text{tax rate} = [(14,151 - 11,150) + (20,001 - 14,266)] * 0.50 = 8,736 * 0.50 = 4,368$$

QUESTION III: LONG-TERM DEBT 20 POINTS)

F&I Inc., on January 1st, 2004, makes a coupon bond issue (**Bond A**) with the following terms:

Face value: \$100,000

Coupon rate: 12% per year, to be paid at the end of every year

Maturity: 10 years

The market rate of interest at the time of the issue is 10%. F&I makes adjusting entries at the end of every year.

A. What is the dollar amount F&I raises with Bond A? Report the journal entries for recording the bond issue.

3+3 points

$$\begin{aligned}\text{Dollar amount raised} &= (100,000) \cdot \text{PVF}[10\%, 10 \text{ years}] + 12,000 \cdot \text{PVFOA}[10\%, 10 \text{ years}] \\ &= 100,000 \cdot 0.3855 + 12,000 \cdot 6.1446 \\ &= 112,285.20\end{aligned}$$

Dr Cash	112,285.20	
Cr Premium on Bonds Payable	12,285.20	
Cr Bonds payable	100,000.00	

B. At the end of the fourth year, on December 31st, 2007, F&I retires Bond A early. The prevailing market interest rate on Bond A on December 31st, 2007, is 12%. What is the gain or loss on retirement of bonds? Provide the journal entries for recording the retirement.

6+3 points

Market value of Bond = 100,000.00 (Market rate = Coupon rate)

$$\begin{aligned}\text{Book value of Bond} &= (100,000) \cdot \text{PVF}[10\%, 6 \text{ years}] + 12,000 \cdot \text{PVFOA}[10\%, 6 \text{ years}] \\ &= 100,000 \cdot 0.5645 + 12,000 \cdot 4.3553 \\ &= 108,713.60\end{aligned}$$

Gain on retirement of bond = 8,713.60

Dr Bonds Payable	100,000.00	
Dr Premium on Bonds payable	8,713.60	
Cr Cash		100,000.00
Cr Gain of retirement of bonds		8,713.60

C. On Jan 1st, 2008, F&I makes another bond issue, Bond X. Bond X is a zero-coupon bond with a face value of \$ 112,000 and a maturity of ten years. The market interest rate on the date of issue is 12%. What is the interest expense on Bond X in Year 2013?

5 points

$$\begin{aligned}\text{Net bonds payable at the beginning of Year 2013} &= (112,000) * \text{PVF}[5 \text{ years, } 12\%] \\ &= 112,000 * 0.5674 \\ &= 63,548.80\end{aligned}$$

$$\begin{aligned}\text{Interest expense} &= 12\% \text{ of Net Bonds Payable at beginning of Year 2013} \\ &= 0.12 * 63,548.80 \\ &= 7,625.86\end{aligned}$$

QUESTION IV: LEASES (20 POINTS)

On Jan 1st, 2006, F&I Inc. enters into its first and only capital lease for some store property. The contract calls for 10 equal payments at the end of every year, with the first payment on December 31st, 2006. The leased equipment is depreciated over ten years using straight line method and has zero estimated salvage value. If you solve for an interest rate at any point, use the value of the rate rounded to the nearest integer.

The present value of lease obligation recorded on Jan 1st, 2007 is \$62,469. The value of the lease obligation on Jan 1st, 2008 is \$57,467. The interest expense recorded in Year 2007 is \$4,998.

A. What is the annual lease payment on the leased property?

5 points

$$\text{Lease pay-down} = 62,469 - 57,467 = 5,002$$

$$\text{Interest expense} = 4,998$$

$$\text{Annual payment} = \text{Lease paydown} + \text{interest expense} = 5002 + 4,998 = 10,000$$

B. Provide the journal entries for recording the lease interest expense on December 31st, 2007.

3 points

Dr Lease interest expense	4,998	
Dr Lease liability*		5,002
Cr Cash		10,000

*Or Present Value of Lease Obligation

C. In the property lease above, what is the effective lease interest rate?

3 points

Lease interest expense =
Effective lease interest rate * Beginning Present Value of Lease Obligation

$$\begin{aligned} \text{Effective rate} &= \text{Lease interest expense} / \text{Beginning Present Value of Lease Obligation} \\ &= 4,998 / 62,469 \\ &= 8\% \end{aligned}$$

**D. What is the present value of the lease obligation as on Jan 1st, 2006?
[Hint: You may find it useful to solve Parts A & C first]**

4 points

$$\begin{aligned}\text{Present Value of Lease Obligation} &= 10,000 * \text{PVFOA}[10 \text{ years}, 8\%] \\ &= 67,101\end{aligned}$$

E. Instead of the capital lease, if F&I had entered into an operating lease of the property on Jan 1st, 2006 for five years, it would have to pay \$10,500 as operating lease rent at the end of every year. Would total reported expenses in Year 2007 on account of the lease be higher with the operating lease structure than with the current capital lease structure that F&I has? Justify your answer.

5 points

NO. Capital lease total expense will be higher

$$\text{Total expenses under operating lease} = \$10,500$$

Total expenses under capital lease structure

$$\text{Depreciation expense} = (67,101 - 0) / 10 = 6,710.10$$

$$\text{Interest expense} = 4,998$$

$$\text{Total expense} = 11,708.10$$

NOTE: You do not need to solve Part D for the correct answer.

At the time of inception, value of leased asset = value of lease liability, or Present Value of Lease Obligation

Therefore, historical lease asset value \geq Present value of lease obligation at the end of one year
= 62,469.

Salvage value = 0.

Depreciating even 62,469 over ten years and adding interest expense to it yields a higher total expense than \$10,500.

Space for calculations