

SUGGESTED SOLUTION
FINAL EXAMINATION

Fall 2011

Question 1 (24 marks) *Multiple-choice*

(1.5 marks per correct answer)

1. a 2. c 3. d 4. d 5. d 6. c 7. c 8. c 9. b 10. d
11. d 12. a 13. c 14. d 15. c 16. d

Question 2 (13 marks)

Req. 1 (4 marks)

Acquisition cost of equipment = \$900,000 + \$20,000 + 10,000 = \$930,000

January 1, 2008:

Equipment	930,000	
Cash		930,000

Depreciation expense = $(\$930,000 - \$30,000) / 10 \text{ years} = \$90,000$

December 31, 2008:

Depreciation expense	90,000	
Accumulated depreciation - Equipment		90,000

Req. 2 (4 marks)

January 1, 2010:

Equipment	150,000	
Cash		150,000

Carrying amount of equipment at January 1, 2010 = $\$930,000 - \$90,000 \times 2 + \$150,000 = \$900,000$

Depreciation expense = $(\$900,000 - \$30,000) / 12 \text{ years} = \$72,500$

December 31, 2010:

Depreciation expense	72,500	
Accumulated depreciation - Equipment		72,500

Req. 3 (3 marks)

Accumulated depreciation, September 30, 2011 = $\$90,000 \times 2 + \$72,500 \times 1.75 = \$306,875$

Carrying amount, September 30, 2011 = $(\$930,000 + \$150,000) - \$306,875 = \$773,125$

Loss () on sale of equipment = $\$750,000 - \$773,125 = -\$23,125$

Req. 4 (2 marks)

Depreciation expense, 2008 = $\$930,000 \times 2/10 \text{ years} = \$186,000$

Depreciation expense, 2009 = $(\$930,000 - \$186,000) \times 2/10 \text{ years} = \$148,800$

Question 3 (20 marks)

Req. 1 (4.5 marks)

Trade receivables	45,200	
Sales Revenue [200 x \$200]		40,000
GST Payable [\$40,000 x 5%]		2,000
PST Payable [\$40,000 x 8%]		3,200
Warranty Expense	420	
Estimated Warranty Payable		420
(\$30 x 200 x 0.07)		

Req. 2 (4 marks)

a. Payment to employees = $\$19,500 - (4,200 + 975 + 675 + 448 + 324) = \$12,878$

b. Total compensation expense = $\$19,500 + 1.4 \times \$448 + \$975 = \$21,102.20$

Req. 2 (11.5 marks)

a. Periodic interest payments $(\$200,000 \times 9.5\%) \times 6/12 = \$9,500$

Present value of the principal = $\$200,000 \times 0.3769 =$	\$ 75,380
Present value of interest payments = $\$9,500 \times 12.4622 =$	<u>118,391</u>
Issue price	\$193,771

b. Jan. 1		
Cash	193,771	
Discount on Bonds Payable	6,229	
Bonds Payable		200,000
Jul. 1		
Interest Expense (\$193,771 x 5%)	9,689	
Discount on Bonds Payable		189
Cash		9,500
Dec. 31		
Interest Expense [\$193,771 + 189] x 5%]	9,698	
Discount on Bonds Payable.....		198
Interest Payable		9,500

c. January 1, 2012

Bonds payable	200,000	
Loss on early redemption of bonds	7,842	
Cash (\$200,000 x 1.01)		202,000
Discount on bonds payable (\$6,229 – \$189 – \$198)		5,842

Question 4 (19 marks)

Reg. a (2.5 marks)

Cash paid for rent = Rent expense – decrease in Prepaid rent – Increase in Rent payable
= \$16,000 – (\$7,000 – 0) – (\$4,000 – 0) = \$5,000.

Reg. b (3 marks)

Cash paid to suppliers = Cost of goods sold – decrease in Inventory + decrease in Trade payables
= \$293,000 + \$25,000 – \$36,000 + \$61,000 – \$32,000 = \$311,000.

Reg. c (1.5 marks)

Cash collected from customers = Sales revenue + decrease in Trade receivables
= (\$444,000 + \$293,000) + \$125,000 – \$110,000 = \$752,000.

Req. d

Drapeau Corp.
Statement of Cash Flows
For the Year ended December 31, 2011

Operating activities		
Profit	\$22,000	
Add (deduct) items not affecting cash:		
Depreciation expense	27,000	
Gain on sale of land	(2,000)	
Loss on sale of equipment	4,000	
Decrease in trade receivables	15,000	
Decrease in merchandise inventory	11,000	
Decrease in prepaid rent	7,000	
Decrease in trade payables	(29,000)	
Increase in rent payable	<u>4,000</u>	
Cash from operating activities		\$59,000
Investing activities		
Acquisition of equipment	(142,000)	
Sale of land (Note 1)	11,000	
Sale of equipment (Note 2)	<u>30,000</u>	
Cash from (used in) investing activities		(101,000)
Financing activities		
Issuance of common shares for cash (Note 3)	84,000	
Payment of dividends (Note 4)	<u>(7,000)</u>	
Cash from financing activities		<u>77,000</u>
Increase in cash		35,000
Cash balance, December 31, 2010		<u>12,000</u>
Cash balance, December 31, 2011		<u><u>\$47,000</u></u>

Notes:

1. Cash received = Cost of land sold + Gain = (\$38,000 – \$29,000) + \$2,000 = \$11,000.

2. Cost of equipment sold = Beginning balance + Purchase of equipment – Ending balance
= \$600,000 + \$142,000 – \$690,000 = \$52,000.

Accumulated depreciation = Beginning balance + Depreciation expense – Ending Balance
= \$215,000 + \$27,000 – \$224,000 = \$18,000.

Proceeds from sale of equipment = Carrying amount – Loss on sale
= (\$52,000 – \$18,000) – \$4,000 = \$30,000.

3. Issuance of common shares = Increase of Common shares – Issuance of shares on conversion of bonds
= (\$201,000 – \$42,000) – \$75,000 = \$84,000.

4. Dividends declared = Beg. Retained earnings + Profit – End. Retained earnings
= \$380,000 + \$22,000 – \$395,000 = \$7,000.

In the absence of a Dividends Payable account, the dividends declared were paid during the year.

Note X -- Significant non-cash financing activity

During 2011 common shares were issued in exchange for bonds payable with a face value of \$75,000.

Req. e (2 marks)

Quality of earnings = Cash flow from operations / Profit = \$59,000 / \$22,000 = 2.68

The quality of earnings ratio measures the portion of earnings that was generated in cash. A ratio that is higher than 1 indicates higher-quality earnings because each dollar of profit is supported by at least one dollar of cash from operations.

Question 5 (20 marks)

Req. 1 (14 marks)

Profit margin = Profit / Net Sales = \$135,000 / \$3,510,000 = 0.0385 or 3.85%

This ratio indicates the percentage of each sales dollar that is earned as profit.

Debt to equity ratio = Total Liabilities / Shareholders' Equity = \$600,000 / \$772,000 = 0.78

This ratio measures the relationship between resources provided by creditors and those provided by owners.

Times interest earned ratio = Profit before Interest and Taxes / Interest Expense
= \$245,000 / \$44,000 = 5.57

This ratio measures the amount of earnings available to cover interest expense.

Return on equity = Profit / Average Shareholders' Equity
= \$135,000 / [(\$772,000 + \$678,000)/2] = 0.1862 or 18.62%

This ratio measures the return earned for shareholders based upon their investment (including retained earnings) in the business.

Return on assets = [Profit + Interest Expenses (net of tax)] / Average Total Assets
= [\$135,000 + \$44,000 x (1 - \$66,000/\$201,000)] / [(\$1,248,000 + \$1,372,000)/2]
= 0.1256 or 12.56%

This ratio measures the entity's performance in using total resources (total assets) available to it.

Receivables turnover = Net Credit Sales / Average Net Trade Receivables
= \$3,510,000 / [(\$82,000 - \$1,000 + \$115,000 - \$5,000)/2] = 36.75

This ratio measures the effectiveness of credit granting and collection of receivables.

Fixed assets turnover = Net Sales / Average Net Fixed Assets
= \$3,510,000 / [(\$210,000 + \$1,220,000 - \$599,000 + \$210,000 + \$900,000 - \$369,000)/2]
= 4.47

This ratio measures the amount of sales generated per dollar of fixed assets.

Earnings per share = Profit Available to Common Shareholders / Average # of Common Shares Outstanding
= (\$135,000 - \$5,000) / 20,000 = 6.50

This ratio is a measure of the return on investment that is based on the number of shares outstanding instead of the carrying amount of common shareholders' equity.

Req. 2 (2 marks)

The Cash Coverage ratio compares the cash generated with the cash obligations of the period. The Times Interest Earned ratio uses amounts based on the accrual basis of accounting. Profit, interest expense and income tax expense do not usually reflect cash amounts. For this reason, we calculate the Cash Coverage ratio, which focuses on cash amounts. Creditors are generally more concerned about a company's ability to make required interest payments. Therefore, creditors prefer the Cash Coverage ratio over the Times Interest Earned ratio.

Req. 3 (3 marks)

The table below is not required but it is helpful in answering this requirement.

	Nutritech		Industry Average	
	2011	2010	2011	2010
Debt-to-Equity	0.78	0.75	0.52	0.53
Times Interest Earned	5.57	5.60	7.49	7.42
Return on Equity (%)	18.62	18.34%	15.55%	15.29%
Return on Assets (%)	12.56	12.34%	12.54%	12.28%

In 2010 and 2011, Nutritech Inc. generated \$5.57 and \$5.60, respectively, in profit before interest and taxes for each \$1 of interest expense. This ratio has been stable in these two years, and it indicates that Nutritech is at a secure position for creditors.

Nutritech has a more positive financial leverage percentage (ROE – ROA) than the industry average. Financial leverage can be enhanced either by investing effectively (i.e., earning a high return on investment) or make effective use of borrowing. Given that the company has ROAs that are comparable to the industry average, its relatively high ROE is the result of borrowing as indicated by its Debt-to-Equity ratio that is higher than the industry average. Nutritech relies more on debt financing than its industry peers.