

SUGGESTED SOLUTION, FINAL EXAMINATION
Winter 2012

Question 1 (24 marks) *Multiple-choice*

(1.5 marks per correct answer)

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

Question 2 (21 marks)

PART A (14 marks)

Reg. 1 (2 marks)

Asset	Market Value	Percentage	Allocated Cost
Land*	\$ 88,000	40%	\$ 76,000
Building*	<u>132,000</u>	<u>60%</u>	<u>114,000</u>
Total	\$220,000	100%	\$190,000

Reg. 2 (4.5 marks)

Date	Accounts	Debit	Credit
Mar. 1	Land	76,000	
	Building	114,000	
	Cash		190,000
Apr. 15	Truck	20,500	
	Cash		20,500
Apr. 16	Truck	1,400	
	Cash		1,400
Jun.30	Repairs Expense	200	
	Cash		200

Req. 3 (2 marks)

The depreciation method should reflect the pattern of benefits that the company will derive from the use of the truck. If the company expects that the truck will be driven the same distance each year, then the straight-line method would be appropriate. Realistically, the distance travelled by the truck each year depends on the volume of activity which differs from year to year. As a result, the use of the units-of-activity method would be appropriate. Finally, the truck is likely to be more efficient in the first few years of its useful life than later years with more benefits accruing to the company in the first years. Accordingly, the use of the double-declining method may be justified.

Req. 4 (5.5 marks)

Dec. 31	Depreciation Expense – Building **	3,333	
	Depreciation Expense – Truck ***	1,350	
	Accumulated Depreciation – Building		3,333
	Accumulated Depreciation – Truck		1,350

$$** (114,000 - 14,000) / 25 \text{ years} \times 10 \text{ months} / 12 = \$3,333$$

$$*** [(20,500 + 1,400 - 3,900) / 120,000] \times 9,000 = \$1,350$$

PART B (7 marks)

$$\text{Depreciation expense, 2010} = \$60,000 \times 2/5 \text{ years} = \$24,000$$

$$\text{Depreciation expense, 2011} = (\$60,000 - \$24,000) \times 2/5 \text{ years} = \$14,400$$

$$\begin{aligned} \text{Depreciation expense, Jan. 1 to April 1, 2012} &= (\$60,000 - \$24,000 - \$14,400) \times 2/5 \text{ years} \times 3/12 \\ &= \$2,160 \end{aligned}$$

Journal entries:

April 1	Depreciation Expense	2,160	
	Accumulated Depreciation—Machinery		2,160
Dec. 31	Cash	24,000	
	Accumulated Depreciation—Machinery *	40,560	
	Gain on Disposal		4,560
	Machinery (or Machine)		60,000
	* \$24,000 + \$14,400 + \$2,160		

Question 3 (17 marks)

Reg. a (9.5 marks)

Computations, date of issuance, April 1, 2011:

$\$30,000,000 \times p_{n=20;i=3\%}$ Table A.1, 0.5534)	=	\$ 16,602,000
$(\$30,000,000 \times 5.5\% \times \frac{1}{2}) \times P_{n=20;i=3\%}$ (Table A.2, 14.8775)	=	12,273,938
Bond issue price		<u>\$ 28,875,938</u>

Note: The PV factor in Table A.1 in the textbook is 0.5537, but in the sheet attached to the exam paper it is 0.5534, which is used for the calculation above. If a PV factor of 0.5537 is used, then the PV would be \$16,611,000, an increase by \$9,000, which affects all subsequent calculations.

April 1, 2011:

Cash	28,875,938	
Discount on bonds payable.....	1,124,062	
Bonds payable		30,000,000

Computations, first interest date, October 1, 2011:

Interest paid: $\$30,000,000 \times 5.5\% \times \frac{1}{2} = \$825,000$

Interest expense: $\$28,875,938 \times (6\% \times \frac{1}{2}) = \$866,278$ (rounded)

Bond interest expense	866,278	
Discount on bonds payable		41,278
Cash		825,000

Computations, adjusting journal entry, December 31, 2011:

Accrued interest payable: $\$30,000,000 \times (5.5\% \times \frac{3}{12}) = \$412,500$.

Interest expense $(\$28,875,938 + \$41,278) \times (6\% \times \frac{3}{12}) = \$433,758$ (rounded)

December 31, 2011:

Bond Interest expense	433,758	
Discount on bonds payable		21,258
Bond Interest payable		412,500

Req. b (4.5 marks)

Yanick Ltd.
Statement of Financial Position (partial)
As at December 31, 2011

Current Liabilities:

Bond interest payable	\$ <u>412,500</u>
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Long-term Liabilities:

Bonds payable, 5.5%, due 2021	\$30,000,000
Less: Discount on bonds payable	<u>1,061,526</u> *
Carrying amount (net liability)	<u>\$28,938,474</u>

* $\$1,124,062 - \$41,278 - \$21,258 = \$1,061,526$

Req. c (3 marks)

Early redemption, January 1, 2012:

Total cash disbursed = $\$30,000,000 \times .94 + \$412,500$ (accrued interest) = \$28,612,500.

Loss (gain) on redemption = Cash paid – Carrying amount
= $\$28,200,000 - \$28,938,474 = -\$738,474 \rightarrow$ Gain

Question 4 (19 marks)

Req. 1 (4 marks)

- a. Return on Assets = [Profit + Interest Expense (net of tax)] / Average Total Assets
$$= [379 + 30 \times (1 - 155/534)] / [(2,497 + 2,164)/2] = 0.1718 \text{ or } 17.18\%$$

The return on assets measures the company's performance in using total resources (total assets) available to it.

- b. Inventory Turnover = Cost of Sales / Average Inventory
$$= 1,742 / [(101 + 134)/2] = 14.83$$

The inventory turnover ratio reflects how many times the average inventory was produced and sold during the period.

Req. 2 (4 marks)

- a. Times-interest-earned ratio = Profit before Interest and Taxes / Interest Expense
$$= (1,525 + 319)^* / 33 = 55.88$$

* or $(1,811 + 33)$

The times-interest-earned ratio shows the amount of profit before interest and income tax that is generated relative to interest expense.

- b. Quick ratio = (Cash and cash equivalents + Net receivables) / Current Liabilities
$$= (1,148 + 617) / 2,075 = 0.85$$

The quick ratio is a severe test of liquidity that relates quick assets to current liabilities.

Req. 3a (8 marks)

Tim Hortons:

Return on Equity	= Profit / Average Shareholders' Equity $= 379 / [(1,452 + 1,134)/2] = 0.2931 \text{ or } 29.31\%$
Net Profit Margin	= Profit / Net Sales = $379 / 2,802 = 0.1353 \text{ or } 13.53\%$
Asset Turnover	= Net Sales / Average Total Assets $= 2,802 / [(2,497 + 2,164)/2] = 1.20$
Financial Leverage	= Average Total Assets / Average Shareholders' Equity $= [(2,497 + 2,164)/2] / [(1,452 + 1,134)/2] = 1.80$

Starbucks:

Return on Equity	= Profit/Average Shareholders' Equity = 1,248 / [(3,674 + 4,385)/2] = 0.3097 or 30.97%
Net Profit Margin	= Profit / Net Sales = 1,248 / 11,700 = 0.1067 or 10.67%
Asset Turnover	= Net Sales / Average Total Assets = 11,700 / [(6,385 + 7,360)/2] = 1.70
Financial Leverage	= Average Total Assets / Average Shareholders' Equity = [(6,385 + 7,360)/2] / [(3,674 + 4,385)/2] = 1.71

Req. 3b (3 marks)

Tim Hortons and Starbucks have comparable Return on Equity ratios. However, DuPont analysis suggests the following: (1) Tim Hortons has a higher Net Profit Margin ratio than Starbucks, (2) it has a lower Asset Turnover ratio than Starbucks, and (3) it has a slightly higher, but comparable, financial leverage relative to Starbucks.

Overall, Tim Hortons is able to generate more profit from every dollar of sales revenues, which suggests that it managed its expenses, especially the operating expenses, more efficiently. On the other hand, Tim Hortons generates smaller profit for every dollar of assets it controls, indicating that it managed its assets less efficiently than Starbucks.

Question 5 (19 marks)**Req. 1 (6 marks)**

Mowtak Ltd.
Statement of Cash Flows (partial)
For the Year ended December 31, 2011

Operating activities		
Profit (note 1)	\$1,110,000	
Add (deduct) items not affecting cash :		
Depreciation expense	90,000	
Gain on disposal of capital assets	(60,000)	
Increase in trade receivables	(30,000)	
Decrease in merchandise inventory	15,000	
Decrease in prepayments	2,000	
Increase in trade payables	8,000	
Decrease in income taxes payable	<u>(16,000)</u>	
Cash from operating activities		\$1,119,000

Note 1: \$2,600,000 – \$1,200,000 – \$30,000 + 60,000 – \$320,000 = \$1,110,000

Req. 2 (9 marks)

a. Cash collected from customers = Sales revenue – Increase in Trade receivables
= \$4,000,000 – (\$70,000 – \$40,000) = \$3,970,000

b. Cost of goods sold = Sales – Gross profit = \$4,000,000 – \$2,600,000 = \$1,400,000

Purchases = EI + COGS – BI = \$20,000 + \$1,400,000 – \$35,000 = \$1,385,000

Payments = Beg. T/P + Purchases – Ending T/P = \$39,000 + \$1,385,000 – \$47,000 = \$1,377,000

Alternatively, the cash paid to suppliers may be computed as follows:

Cash paid to suppliers = Cost of goods sold – Decrease in Inventory – Increase in Trade payables
= \$1,400,000 – (\$35,000 – \$20,000) – (\$47,000 – \$39,000)
= \$1,377,000

c. Carrying amount of equipment sold = Beginning balance + Purchase of equipment
– Depreciation expense – Ending balance
= \$1,292,000 + \$950,000 – \$90,000 – \$2,124,000
= \$28,000.

Proceeds from sale of equipment = Carrying amount + Gain on sale
= \$28,000 + \$60,000 = \$88,000.

d. Dividends declared = Beg. Retained earnings + Profit – End. Retained earnings
= \$1,018,000 + \$1,110,000 – \$1,778,000 = \$350,000.

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

Req. 3 (4 marks)

a. Quality of earnings = Cash flow from operations / Profit = \$1,119,000 / \$1,110,000 = 1.01

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.

b. Free cash flow = Cash flow from operations – Dividends – Capital expenditures
= \$1,119,000 – \$350,000 – \$950,000 = – \$181,000

Alternatively, FCF = \$1,119,000 – \$350,000 – (\$950,000 – 88,000) = – \$93,000
Net capital expenditures

Free cash flow is a measure of the firm's ability to pursue long-term investment opportunities.