

SUGGESTED SOLUTION - FINAL EXAMINATION - Winter 2011

QUESTION 1 (24 MARKS) *Multiple-choice* (1.5 marks per correct answer)

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

QUESTION 2 (16 MARKS)

Req. 1 (3 marks)

Machine	60,000	$\$180,000 \times (70,000/210,000) = \$60,000$
Building	120,000	$\$180,000 \times (140,000/210,000) = \$120,000$
Note payable	100,000	
Cash	80,000	

Req. 2 (2 marks) Amortization expense for the machine

2009:	$\$60,000 \times (2/10 = 20\%) =$	\$12,000
2010:	$(\$60,000 - \$12,000) \times (2/10 = 20\%) =$	\$9,600

Req. 3 (4 marks) Amortization expense for the building

2009:	$(\$120,000 - \$2,000) / 20 =$	\$5,900
2010:	$(\$120,000 + \$50,000 - \$4,100 - \$5,900) / (20 - 1 + 6) =$	\$6,400

Req. 4 (7 marks)

Amortization Expense	3,200	
Accumulated amortization	3,200	
Cash	50,000	
Note receivable	110,000	
Accumulated amortization	15,500	$[\$5,900 + \$6,400 + (\$6,400 \times 6/12)]$
Gain on sale of building	5,500	
Building	170,000	

Net book value at June 30, 2011 = $(\$120,000 + \$50,000) - 15,500 = \$154,500$

Gain on sale of building = $(\$50,000 + \$110,000) - \$154,500 = \$5,500$

QUESTION 3 (21 MARKS)

Req. 1 (4 marks)

PV of principal	= \$313,600,000 x 0.4564 =	\$143,127,040
PV of interest payments	= \$313,600,000 x 7.5% x $\frac{1}{2}$ x 13.5903 =	<u>159,821,928</u>
Bond issue price:		<u>\$302,948,968</u>
Cash	302,948,968	
Discount on bonds payable	(\$313,600,000 – \$302,948,968)	10,651,032
Bonds payable		313,600,000

Req. 2 (2 marks) August 1, 2010 (effective-interest method)

Bond interest expense	(\$302,948,968 x 8% x $\frac{1}{2}$)	12,117,959
Discount on bonds payable		357,959
Cash	(\$313,600,000 x 7.5% x $\frac{1}{2}$)	11,760,000

Req. 3 (3 marks) January 31, 2011 (effective-interest method)

Bond interest expense	[(\$302,948,968 + 357,959) x 8% x $\frac{1}{2}$]	12,132,277
Discount on bonds payable		372,277
Bond interest payable		11,760,000

Req. 4 (5 marks)

Current liabilities:

Bond interest payable	\$ <u>11,760,000</u>
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Long-term liabilities:

Bonds payable, 7.5%, due 2020	\$313,600,000
Less: Discount on bonds payable	<u>9,920,796**</u> [\$10,651,032 – \$357,959 – \$372,277]
Carrying amount (net liability)	<u>\$303,679,204</u>

Req. 5 (1.5 marks) February 1, 2011

Bond interest payable	11,760,000
Cash	11,760,000

Req. 6 (3.5 marks) February 1, 2011

Bonds payable	(\$313,600,000 x .20)	62,720,000
Loss on early redemption of bonds		3,238,559
Cash	(\$313,600,000 x .20 x 1.02)	63,974,400
Discount on bonds payable	(\$9,920,796 x .20)	1,984,159

Req. 7 (2 marks) Cumulative interest expense (Feb. 1, 2011 - Feb. 1, 2020 => 9 years)

Cash payments	(\$11,760,000 x .80 x 9 x 2)	\$169,344,000
Remaining discount on the bonds	(\$9,920,796 x .80)	<u>7,936,637</u>
		<u>\$177,280,637</u>

QUESTION 4 (19 MARKS)

Karou Corp.
Cash Flow Statement
For the Year ended December 31, 2011

Operating activities		
Net income	\$96	
Add (deduct) items not affecting cash :		
Amortization expense	69	
Gain on sale of equipment	(6)	
Increase in non-cash working capital items	<u>(48)</u>	
Cash from operating activities		\$111
Investing activities		
Purchase of equipment (Note 1)	(90)	See details below
Sale of equipment (Note 2)	<u>16</u>	See details below
Cash used in investing activities		(74)
Financing activities		
Repayment of bonds (Note 3)	(10)	See details below
Issuance of common shares	40	
Payment of dividends (Note 4)	<u>(64)</u>	See details below
Cash used in financing activities		<u>(34)</u>
Increase in cash during 2011		3
Cash balance, December 31, 2010		<u>94</u>
Cash balance, December 31, 2011		<u>\$97</u>

Note: Bonds payable of \$20 million were converted to common shares during 2011.

Note 1: Increase in PP&E = Purchase of equipment – Cost of equipment sold
 $\$420 - \$370 = \text{Purchase} - \$40 \implies \text{Purchase} = \$50 + \$40 = \90

Note 2: Cash received = Net book value + gain = $\$10 + 6 = \16 .

Note 3: Decrease in bonds payable = conversion of bonds to shares + repayment of bonds
 $\$120 - \$90 = \$20 + \text{repayment} \implies \text{Repayment} = \$30 - \$20 = \10

Note 4: Increase in retained earnings = Net income – dividends declared
 $\$223 - \$191 = \$96 - \text{dividends} \implies \text{Dividends} = \$96 - \$32 = \64

Req. 2

a) Cash collected from customers = $\$970 - (\$32 - \$26) = \964

b) Purchases = $\$135 + \$550 - \$90 = \595

 Payments = $\$35 + \$595 - \$31 = \599

c) Cash paid = $\$6 - (\$3 - \$2) = \5

QUESTION 5 (20 MARKS)

Req. 1 (14 marks)

PROFITABILITY RATIOS: *Check only three of the following ratios.*

$$\text{Return on shareholders' equity} = \$26,000 / [(\$46,000 + \$60,000)/2] = 0.49 \text{ or } 49\%$$

This ratio measures the return earned for shareholders on their investment (including retained earnings).

$$\text{Return on assets} = [\$26,000 + \$4,000 (1 - 0.35) \text{ optional}] / [(\$98,000 + \$122,000)/2] = 0.26 (26\%) \text{ or } 24\%$$

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

$$\text{Profit margin} = \$26,000 / \$520,000 = 0.05 (5\%)$$

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

$$\text{Fixed assets turnover} = \$520,000 / [(\$17,000 + \$50,000)/2] = 15.5$$

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

LIQUIDITY RATIOS: *Check only three of the following ratios.*

$$\text{Current ratio} = \$72,000 / \$14,000 = 5.14$$

This ratio measures the adequacy of working capital by relating total current assets to total current liabilities.

$$\text{Quick ratio} = (\$10,000 + \$25,000) / \$14,000 = 2.5$$

This ratio is a severe test of liquidity by relating quick assets to total current liabilities.

$$\text{Cash ratio} = \$10,000 / \$14,000 = 0.71$$

This ratio indicates the immediate liquidity, and reflects the percentage of cash and cash equivalents that are available to pay current liabilities.

$$\text{Receivables turnover} = (\$520,000 \times 40\%) / [(\$25,000 + \$39,000)/2] = 6.5$$

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

$$\text{Inventory turnover} = \$360,000 / [(\$19,000 + \$23,000)/2] = 17.14$$

This ratio reflects the number of times inventory was purchased and sold during the year.

SOLVENCY RATIOS: *Check only one of the following ratios.*

$$\text{Debt to equity ratio} = \$62,000 / \$60,000 = 1.03$$

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

$$\text{Times interest earned ratio} = (\$26,000 + \$14,000 + \$4,000) / \$4,000 = 11$$

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

Req. 2 (2 marks)

The profit margin ratio equals 5%, indicating that the company earned 5 cents per dollar of sales.

This ratio should be compared to the company's ratios for previous years and to other companies in the same industry in order to evaluate the relative performance of the company's management.

Also could be integrated into a model (e.g., Dupont) to analyse ROE.

Req. 3 (2 marks)

The quick ratio is more conservative than the current ratio because it only considers cash, short-term investments and receivables as items that are available in the very short term to pay current liabilities.

The quick ratio is relatively high. The company does not appear to be facing liquidity problems.

Req. 4 (2 marks)

The company allows customers 30 days for collection of accounts receivable, but the average collection period is 56 days ($365 / 6.5$, receivable turnover computed above). This is not consistent with (higher than) the company's credit policy.