**Advanced Liquidity Analysis**

**Learning Problems**

**Answer Keys**

**Managing Liquidity Ratios**

1.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Transaction** | **Current1****Ratio** | **Quick Ratio1** | **Cash Ratio1** | **NWC** | **Debt Ratio** |
| 1 | Borrows CAD 10,000 from the bank on a short-term note | **↓** | **↓** | **↑** | **-** | **↑** |
| 2 | Writes off a CAD 5,000 customer account | **↓** | **↓** | **-** | **↓** | **↑** |
| 3 | Issues CAD 25,000 in new common stock for cash | **↑** | **↑** | **↑** | **↑** | **↓** |
| 4 | Purchases CAD 7,000 of new equipment for cash | **↓** | **↓** | **↓** | **↓** | **-** |
| 5 | CAD 5,000 of inventory is destroyed by fire | **↓** | **-** | **-** | **↓** | **↑** |
| 6 | Invests CAD 3,000 in short-term marketable securities | **-** | **-** | **-** | **-** | **-** |
| 7 | Issues CAD 10,000 in long-term bonds | **↑** | **↑** | **↑** | **↑** | **↑** |
| 8 | Sells equipment with a book value of CAD 6,000 for CAD 7,000 | **↑** | **↑** | **↑** | **↑** | **↓** |
| 9 | Issues CAD 10,000 of stock in exchange for land | **-** | **-** | **-** | **-** | **↓** |
| 10 | Purchases CAD 3,000 in inventory for cash | **-** | **↓** | **↓** | **-** | **-** |
| 11 | Purchases CAD 5,000 in inventory on credit | **↓** | **↓** | **↓** | **-** | **↑** |
| 12 | Pays CAD 2,000 to a supplier on account | **↑** | **↑** | **↓** | **-** | **↓** |

**Financial Assets with No Influence**

1.

**Isaac Inc. Common Shares**

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Isaac common shares1 | 42,000 |
|  |  Cash | 42,000 |

1 1,200 x 35 = 42,000

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Cash1 | 2,940 |
|  |  Dividend income | 2,940 |

1 1,200 x 2.45 = 2,940

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Other financial assets – Isaac common shares1 | 5,172 |
|  |  Accumulative other comprehensive income | 5,172 |

1 (39.31 – 35.00) (1,200) = 5,172

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 3,000 |
|  |  Dividend income | 3,000 |

1 1,200 x 2.50 = 3,000

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Accumulative other comprehensive income1 | 732 |
|  |  Other financial assets – Isaac common shares | 732 |

1 (38.70 – 39.31) (1,200)

**Orange Ltd. Common Shares**

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Orange common shares1 | 22,560 |
|  |  Cash | 22,560 |

1 480 x 47.00 = 22,560

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Cash1 | 1,776 |
|  |  Dividend income | 1,776 |

1 480 x 3.70 = 1,776

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Accumulative other comprehensive income1 | 1,824 |
|  |  Other financial assets – Orange common shares | 1,824 |

1 (43.20 – 47.00) (480) = -1,824

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 1,824 |
|  |  Dividend income | 1,824 |

1 480 x 3.80 = 1,824

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Other financial assets – Orange common shares1 | 2,832 |
|  |  Accumulative other comprehensive income | 2,832 |

1 (49.10 – 43.20) (480)

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 23,568 |
|  | Accumulative other comprehensive income3 | 1,008 |
|  |  Gain on common shares3 | 1,008 |
|  |  Other financial assets – Orange common shares2 | 23,568 |

1 (49.10) (480)

2 22,560 - 1,824 + 2,832

3 -1,824 + 2,832

**Small Co. Bonds**

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Small bonds | 25,000 |
|  | Other financial assets – Premium on small bonds | 750 |
|  |  Cash1 | 25,750 |

1 (25) (1,000) (1.03) = 25,750

|  |  |  |
| --- | --- | --- |
| June 30, 2018 | Cash | 500 |
| through  |  Other financial assets – Premium on small bonds | 120.47 |
| December 31, 2020 |  Interest revenue | 379.53 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Beginning****Principal** | **Interest Revenue****(1.47%) 1** | **Coupon** | **Premium Amortization** | **Ending****Principal** |
| 25,750.00 | 379.53 | 500.00 | 120.47 | 25,629.53 |
| 25,629.53 | 377.75 | 500.00 | 122.25 | 25,507.28 |
| 25,507.28 | 375.95 | 500.00 | 124.05 | 25,383.23 |
| 25,383.23 | 374.12 | 500.00 | 125.88 | 25,257.35 |
| 25,257.35 | 372.27 | 500.00 | 127.73 | 25,129.62 |
| 25,129.62 | 370.38 | 500.00 | 129.62 | 25,000.00 |

125,750 = 5500 ($\frac{1-(1+kd)^{-6}}{kd}$) + $\frac{25,000}{(1+kd)^{6}}$ k d = 1.47%

|  |  |  |
| --- | --- | --- |
| December 31, 2020 | Cash | 25,000 |
|  |  Other financial assets – Small bonds | 25,000 |

**Note:** Only the 2018 and 2019 journal entries are required, but the 2020 entries were provided to demonstrate how the bond would be accounted for over its entire life.

2.

**Isaac Inc. Common Shares**

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Isaac common shares1 | 42,000 |
|  |  Cash | 42,000 |

1 1,200 x 35 = 42,000

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Cash1 | 2,940 |
|  |  Dividend income | 2,940 |

1 1,200 x 2.45 = 2,940

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Other financial assets – Isaac common shares1 | 5,172 |
|  |  Gain on common shares | 5,172 |

1 (39.31 – 35.00) (1,200) = 5,172

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 3,000 |
|  |  Dividend income | 3,000 |

1 1,200 x 2.50 = 3,000

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Loss on common shares1 | 732 |
|  |  Other financial assets – Isaac common shares | 732 |

1 (38.70 – 39.31) (1,200)

**Orange Ltd. Common Shares**

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Orange common shares1 | 22,560 |
|  |  Cash | 22,560 |

1 480 x 47.00 = 22,325

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Cash1 | 1,776 |
|  |  Dividend income | 1,776 |

1 480 x 3.70 = 1,776

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Loss on common shares1 | 1,824 |
|  |  Other financial assets – Orange common shares | 1,824 |

1 (43.20 – 47.00) (480) = -1,824

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 1,824 |
|  |  Dividend income | 1,824 |

1 480 x 3.80 = 1,824

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Other financial assets – Orange common shares1 | 2,832 |
|  |  Gain on common shares | 2,832 |

1 (49.10 – 43.20) (480)

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Cash1 | 23,568 |
|  |  Other financial assets – Orange common shares | 23,568 |

1 (49.10) (480)

3.

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Other financial assets – Small bonds | 25,000 |
|  | Other financial assets – Premium on small bonds | 750 |
|  |  Cash1 | 25,750 |

1 (25) (1,000) (1.03) = 25,750

|  |  |  |
| --- | --- | --- |
| June 30, 2018 | Cash | 500 |
| through  |  Other financial assets – Premium on Small bonds | 120.47 |
| December 31, 2018 |  Interest revenue | 379.53 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Beginning****Principal** | **Interest Revenue****(1.47%) 1** | **Coupon** | **Premium Amortization** | **Ending****Principal** |
| 25,750.00 | 379.53 | 500.00 | 120.47 | 25,629.53 |
| 25,629.53 | 377.75 | 500.00 | 122.25 | 25,507.28 |

125,750 = 5500 ($\frac{1-(1+kd)^{-6}}{kd}$) + $\frac{25,000}{(1+kd)^{6}}$ k d = 1.47%

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Other financial assets – Premium on Small bonds1 | 492.72 |
|  |  Gain on bonds | 492.72 |

1(25,000) (1.04) = 26,000

26,000 – 25,507.28 = 492.72

|  |  |  |
| --- | --- | --- |
| June 30, 2019 | Cash | 500 |
| through  |  Other financial assets – Premium on Small bonds | 246.37 |
| December 31, 2019 |  Interest revenue | 253.63 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Beginning****Principal** | **Interest Revenue****(0.98%) 1** | **Coupon** | **Premium Amortization** | **Ending****Principal** |
| 26,000.00 | 253.63 | 500 | 246.37 | 25,753.63 |
| 25,940.89 | 251.23 | 500 | 248.77 | 25,504.85 |

126,000 = 5500 ($\frac{1-(1+kd)^{-4}}{kd}$) + $\frac{25,000}{(1+kd)^{6}}$ kd = 0.98%

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Loss on bonds | 4.85 |
|  |  Other financial assets – Premium on Small bonds1 | 4.85 |

1(25,000) (1.02) – 25,504.85 = -4.85

4.

At the end of 2018, the bond investment had two years left to maturity. Harrison Company must hold the bonds to maturity to account for these investments using amortized cost. They should be classified as long-term assets and are generally called Other Financial Assets. Harrison does not know when the common share investments will be liquidated, so these investments should also be classified as long-term assets.

Harrison may classify these long-term financial assets as current assets instead of long-term assets to make their liquidity ratios, such as the current ratio, appear higher.

**Trade Receivables at TechCo**

1.

|  |
| --- |
| **Wholesale Customers (000)** |
| **CAD** | **Current** | **30 Days Past Due** | **60 Days Past Due** | **90 Days Past Due** | **More than 120 Days Past Due** | **Credit-Impaired** | **Total** |
| Balance | 1,212,750 | 637,560 | 201,294 | 162,162 | 77,230 | 43,038 |  |
| ECL rate | 1.10% | 2.30% | 4.50% | 8.20% | 18.00% | 100.00% |  |
| ECL loss |  13,340  |  14,664  |  9,058  |  13,297  |  13,901  |  43,038  | 107,299 |

|  |
| --- |
| **Retail Customers (000)** |
| **CAD** | **Current** | **30 Days Past Due** | **60 Days Past Due** | **90 Days Past Due** | **More than 120 Days Past Due** | **Credit-Impaired** | **Total** |
| Balance | 1,010,625 | 531,300 | 167,475 | 135,135 | 63,525 | 35,865 |  |
| ECL rate | 2.10% | 3.20% | 6.30% | 10.10% | 25.50% | 100.00% |  |
| ECL loss | 21,223  | 17,002  |  10,551  | 13,649  |  16,199  |  35,865  | 114,488 |

ECL = 107,299 + 114,488 = 221,787 or 221,787,000

2.

Credit loss = 221,787,000 - 1,950,750 = 219,836,250

**Long-term Receivables at Swiss Army**

1.

January 1, 2017 Notes receivable 5,000

 Sales 5,000

December 31, 2017 Cash 300

 Interest revenue 300

 (5,000) (.06)

December 31, 2018 Loss on impaired loan 2,330.01

 Allowance for impaired loans 2,330.01

 3,000 / (1 + .06)2= 2,669.99

 5,000 – 2,669.99 = 2,330.01

December 31, 2019 Allowance for impaired loans 160.20

 Interest revenue 160.20

 3,000 / (1 + .06) = 2,830.19

 2,830.19 – 2,669.99 = 160.20

 Allowance for impaired loans 943.39

 Gain on impaired loans 160.20

 4,000 / (1 + .06) = 3,773.58

 3,773.58 – 2,830.19 = 943.39

December 31, 2000 Allowance for impaired loans 226.42

 Interest revenue 226.42

 4,000 – 3,773.58 = 226.42

December 31, 2000 Cash 3,500

 Allowance for impaired loans 1,000

 Loss on impaired loans 500

 Notes receivable 5,000

2.

Loan impairment losses and gains can be recognized as needed to smooth earnings. Estimates as to the collectability of receivables can be manipulated.

**Long-term Receivables at Jackson**

1.

January 1, 2017 Cash 3,500

 Notes receivable 6,500

 Sales 10,000

December 31, 2017 Loss on impaired loans 2,780.90

 Allowance for impaired loans 2,780.90

 4,500 / (1 + .10)2 = 3,719.01

 6,500 – 3,719.01 = 2,780.90

December 31, 2018 Allowance for impaired loans 371.90

 Interest revenue 371.90

 4,500 / (1 + .10)1 = 4,090.91

 4,090.91 – 3,719.01 = 371.90

 Loss on impaired loans 454.55

 Allowance for impaired loans 454.55

 4,000 / (1 + .10) = 3,636.36

 4,090.91 – 3,636.36 = 454.55

December 31, 2019- Allowance for impaired loans 363.64

 Interest revenue 363.64

 4,000 – 3,636.33 = 363.64

 Chequing 6,000.00

 Allowance for impaired loans1 2,499.91

 Gain on impaired loans 1,999.91

 Notes receivable 6,500.00

 1 2,780.90 – 371.90 + 454.55 – 363.64 = 2,499.91

**Inventory Valuation at Jones**

1.

**FIFO**

500 x 5.00 = 2,500

500 x 4.90 = 2,450

Total = 4,950

**Average Cost**

$\frac{20,325}{4,400}$ = 4.62

4.62 X 1,000 = 4,620

2.

**FIFO**

4,950 – (4.25) (1,000) = 700 write down

**Average Cost**

4,620 – (4.25) (1,000) = 370 write down

3.

|  |  |  |
| --- | --- | --- |
|  | **FIFO** | **AC** |
| Sales (4,400 – 1,000) (9.50) | 32,300 (100%) | 32,300 (100%) |
| Cost of sales |  |  |
|  FIFO 20,325 – 4,950 | 15,375 (48%) |  |
|  AC 20,325 – 4,620 |  | 15,705 (49%) |
| Gross profit | 16,925 (52%) | 16,595 (51%) |

When prices rise, adopting FIFO results in a higher gross profit (due to lower cost of sales) and a higher inventory valuation.

**Restructuring Provisions at Roanoke**

1.

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Restructuring charges | 4,110,000 |
|  |  Restructuring provision | 4,110,000 |

|  |
| --- |
| Permissible Costs |
| Severance pay | CAD 2,580,000 |
| Retraining and relocation costs | 1,530,000 |
| Total | CAD 4,110,000 |

 The other costs should not be included in the provision as they do not directly relate to the restructuring.

|  |  |  |
| --- | --- | --- |
| March 1, 2019 | Restructuring provision | 1,950,000 |
|  |  Cash | 1,950,000 |

|  |  |  |
| --- | --- | --- |
| April 1, 2019 | Restructuring provision | 200,000 |
|  |  Cash | 200,000 |

|  |  |  |
| --- | --- | --- |
| September 1, 2019 | Restructuring provision | 1,150,000 |
|  |  Cash | 1,150,000 |

|  |  |  |
| --- | --- | --- |
| November 1, 2019 | Restructuring provision1 | 810,000 |
|  |  Reversal of restructuring charge | 810,000 |

1 4,110,000 – 1,950,000 – 200,000 – 1,150,000 = 810,000

Because the restructuring provision was for less than a year, the present value of the obligation was not used, and no attempt was made to adjust the provision to reflect its proper value in light of new information.

2.

* Roanoke attempted to include costs in the restructuring charge provision that were not directly related to the restructuring. They relate to the future operation of the business and not the restructuring. This “big bath” would have made 2018’s net income lower, but this would likely be ignored by analysts in the company’s current financial situation. Costs recognized in future years would have been lower, so net income would have been higher, making it appear that the company’s restructuring measures were having a greater positive effect than they were. The CEO certainly would have taken credit for this improved performance.
* Restructuring costs may have been intentionally overestimated, so a large restructuring charge reversal could be realized next year. This reversal would help to “smooth” net income if the company were having a challenging year financially. The company may also try to delay recognizing the reversal of the restructuring change till 2020 or 2021 to give them more flexibility in “smoothing” income.
* Restructuring costs may have also been intentionally overestimated, so other costs in future years could have been charged against the provision. Roanoke may use this to hide embarrassing cost overages in the future that are difficult to explain or to “pull” operating expenses “below the line” to make ongoing operating income appear larger than it is.

**Warranty Provision at Ryan**

1.

|  |  |  |
| --- | --- | --- |
| January 1, 2018 | Warranty expense1 | 300,000 |
|  |  Warranty provision | 300,000 |

1 15,000,000 x .02

|  |  |  |
| --- | --- | --- |
| December 31, 2018 | Warranty provision1 | 220,000 |
|  |  Parts, wages payable, etc. | 220,000 |

1 440,000 / 2

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Warranty provision | 220,000 |
|  |  Parts, wages payable, etc. | 220,000 |

|  |  |  |
| --- | --- | --- |
| December 31, 2019 | Warranty expense1 | 140,000 |
|  |  Warranty provision | 140,000 |

1 300,000 – 220,000 – 220,000 = -140,000

2.

Ryan reduced warranty expenses in 2018 by lowering the warranty cost estimate from 3.0% to 2.0% of sales. Given actual warranty claims, this reduction was not justified. The added warranty expenses were recognized in 2019 when the obligation expired, but this is likely being used to increase net income in 2018 to meet Ryan’s short-term earnings target.

**Accounting Transactions**

1. An error correction that is accounted for retrospectively. This means financial statements in previous years are adjusted to correct the error, making them more comparable to current statements.
2. Change in accounting estimate that is accounted for prospectively. This means it is applied in future periods only.
3. Contingent asset that is noted as it is probable. It must be virtually certain to be recognized based on the conservatism principle. Recognition will most likely occur when the regulatory commission makes its decision. Contingent assets that are not probable should not be noted.
4. Change in accounting policy that is accounted for retrospectively. Accounting changes should only be made if they improve the quality of the financial information provided to users. A company may switch to FIFO from average cost to manipulate its financial statements by increasing the value of inventory and net income. An auditor may request that the change not be made.
5. Contingent liability that is noted as a possible obligation dependent on the outcome of a product liability lawsuit. Also, IFRS gives companies the option to disclose the contingent liability in general terms with an explanation saying anything more may prejudice their position in the dispute.
6. Related party transaction that is disclosed. Able and Doris are related because they are parent and subsidiary. The transaction should not be disclosed separately but categorized by the nature of the relationship between the two companies. Doris is Able’s parent, so this transaction should be included in the parent category. Also, IFRS requires that all parent-subsidiary relationships be disclosed even if there are no transactions between the parties that year.
7. Related party transaction that is disclosed. Jackson and the CEO’s daughter are related as the daughter is a close family member of the CEO, a key management personnel. The transaction should not be disclosed separately but categorized by the nature of the relationship between the two parties. The correct category is other related parties.
8. Event after the reporting period that is accrued as the conditions existed at year-end. The company did not learn of the bankruptcy until January 5, but Allison was likely already experiencing financial distress on December 31.
9. Contingent liability that is noted since it is a possible obligation dependent on the outcome of a product liability suit. Also, IFRS gives companies the option to disclose the contingent liability in general terms with an explanation saying anything more may prejudice their position in the dispute.
10. Related party transaction that is disclosed. Charlotte and Sigma are both subsidiaries of Rasputin. The transaction should not be disclosed separately but categorized by the nature of the relationship between the two companies. The correct category is other related parties.
11. Source of estimation uncertainty that is disclosed. The estimate of the discount rate and the remaining capacity of the mine could change the value of the mining property by a material amount in the coming year once the study is complete. Estimation uncertainty disclosures should only be provided for items that could be affected in the near term, as this is of the most concern to users.
12. Event after reporting that is noted since the conditions did not exist at year-end, as fires are random events.
13. Change in accounting estimate that is accounted for prospectively. IFRS states that adopting a different depreciation method is a change in estimate since going from the straight-line to the declining balance method is similar to reducing the depreciation period.
14. Event after reporting that is noted since the conditions did not exist at year-end, as Zippo was not purchased till March 10, 2018. The two companies likely discussed the purchase at year-end, but the agreement was not final.
15. Related party transaction that is disclosed. The parent company, Ryley and its subsidiary are related. The transaction should not be disclosed separately but categorized by the nature of the relationship between the two companies. Ryley is the parent, so this transaction should be included in the subsidiary category. Also, IFRS requires that all parent-subsidiary relationships be disclosed even if there are no transactions between the parties that year.
16. The use of CAD 10,000,000 in cash and cash equivalents is restricted for more than 12 months, so it is presented as a non-current asset in the other assets section of the balance sheet.
17. The normal operating cycle for the construction project is 20 months. The project under development and construction loan are presented as current assets and liabilities.
18. Frolic presents the loan as a non-current liability as it has the right to roll it over on June 1, 2023. It presents the loan as a current liability if it hopes to roll it over on that date, but it has no right to.
19. The loan is presented as a non-current liability as payment has been extended beyond 12 months. A description of the conditions that must be met to comply with the grace period should be noted.
20. The loan is presented as a current liability even if the company has the option to pay it with shares in the company.