

CHAPTER 13

CURRENT LIABILITIES AND CONTINGENCIES

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|--|
| c | 1. | Definition of a liability. |
| b | 2. | Characteristics of current liabilities. |
| b | 3. | Definition of economic obligation. |
| a | 4. | Classification of notes payable. |
| b | 5. | Recognition and accounting for financial liabilities. |
| d | 6. | Zero-interest-bearing notes. |
| c | 7. | Refinancing of long-term debts. |
| d | 8. | Identify item that is not a current liability. |
| c | 9. | Identify the current liability. |
| d | 10. | Classification of stock dividends distributable. |
| a | 11. | Goods and Services Tax. |
| b | 12. | Identify current liability. |
| c | 13. | Accounting for GST. |
| c | 14. | Provincial Sales Tax. |
| d | 15. | Current liabilities in general - determine false statement. |
| b | 16. | Corporation income tax. |
| c | 17. | Determine employer's payroll costs. |
| d | 18. | Accumulating rights to benefits. |
| c | 19. | Accrual of a liability for compensated absences. |
| b | 20. | Non-accumulating rights to benefits. |
| d | 21. | Methods of calculating employee bonuses. |
| c | 22. | Definition of a provision. |
| a | 23. | Recognition of an asset retirement obligation. |
| c | 24. | Recognition of an asset retirement obligation. |
| a | 25. | Recording accretion expense for ARO. |
| c | 26. | Revenue approach for product guarantees. |
| d | 27. | Determine false statement regarding warranties. |
| b | 28. | Accounting for premiums and coupons. |
| c | 29. | Recognition of contingencies (private enterprise standards). |
| a | 30. | Recognition of contingencies (IFRS). |
| d | 31. | Accrual of contingent liability. |
| c | 32. | Proposed amendments regarding provisions and contingencies. |
| c | 33. | Disclosure of commitments. |
| d | 34. | Acid-test ratio elements. |
| c | 35. | Days payable outstanding elements. |
| d | 36. | IFRS re customer loyalty programs. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|---------------|------------|--|
| b | 37. | Adjusting entry for zero-interest-bearing note. |
| d | 38. | Journal entry for payment of interest-bearing note. |
| b | 39. | Determine amount of short-term debt to be reported. |
| d | 40. | Determine amount of short-term debt to be reported. |
| b | 41. | Calculate accounts receivable including sales taxes. |
| b | 42. | Calculate cost of purchase for own use. |
| c | 43. | Adjusting entry for unearned revenue. |
| a | 44. | Calculate payroll tax expense. |
| d | 45. | Payment of GST. |
| b | 46. | Calculate vacation pay expense to be reported. |
| c | 47. | Calculate accrued vacation pay liability. |
| a | 48. | Expense approach to warranty. |
| c | 49. | Adjusting entry for corporate income tax.. |
| d | 50. | Entry for asset retirement obligation. |
| b | 51. | Entry for asset retirement obligation accretion. |
| b | 52. | Determine amount to accrue as a loss contingency. |
| a | 53. | Revenue approach to warranty. |
| c | 54. | Calculate warranty liability (expense approach). |
| d | 55. | Determine amount to accrue as a gain contingency. |
| b | 56. | Calculate liability for unredeemed coupons. |
| c | 57. | Calculate quick (acid-test) ratio. |
| d | 58. | Calculate current ratio. |
| a | 59. | Calculate days payables outstanding. |
| b | 60. | Calculate net pay. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|---------------|------------|---|
| a | 61. | Knowledge of accounts payable. |
| a | 62. | Determine amount of short-term debt to be reported. |
| b | 63. | Determine current and long-term portions of debt. |
| c | 64. | Determine accrued interest payable. |
| a | 65. | Calculate accrued salaries payable. |
| b | 66. | Calculate unearned service contract revenue. |
| c | 67. | Calculate liability from unredeemed trading stamps. |
| b | 68. | Accrual of payroll taxes. |
| d | 69. | Determine range of loss accrual. |
| c | 70. | Calculate GST/HST collected. |
| b | 71. | Calculate asset retirement obligation. |

EXERCISES

| Item | Description |
|-------------|------------------------------|
| E13-72 | Notes payable. |
| E13-73 | Payroll entries. |
| E13-74 | Compensated absences. |
| E13-75 | Sales taxes. |
| E13-76 | Asset retirement obligation. |
| E13-77 | Contingent liabilities. |
| E13-78 | Premiums. |
| E13-79 | Premiums. |

PROBLEMS

| Item | Description |
|-------------|--------------------------------------|
| P13-80 | Accounts and notes payable. |
| P13-81 | Refinancing of short-term debt. |
| P13-82 | Premiums. |
| P13-83 | Warranties. |
| P13-84 | Common types of current liabilities. |
| P13-85 | Employee related liabilities. |
| P13-86 | Asset retirement obligation. |
| P13-87 | Unredeemed coupons. |
| P13-88 | Contingences. |

MULTIPLE CHOICE—Conceptual

1. The IASB current proposed definition of a liability is
 - a. an account having a credit balance after closing entries are posted.
 - b. a deferred credit that is recognized and measured in conformity with generally accepted accounting principles.
 - c. a present economic obligation for which the entity is the obligor.
 - d. an obligation to sell shares in the future.

2. According to the IASB current proposed definition, which of the following is NOT an essential characteristic of a liability?
 - a. It exists in the present time.
 - b. There is certainty about the amount of future outflows.
 - c. The obligation is enforceable on the obligor entity.
 - d. It represents an economic burden or obligation.

3. An economic obligation is
 - a. an unconditional promise to pay money in the future.
 - b. an unconditional promise to provide or forego economic resources.
 - c. an unconditional promise to provide or forego economic resources only if there is absolute certainty as to the amount.
 - d. a conditional obligation which becomes unconditional if an uncertain future event occurs.

4. Among the short-term obligations of Lance Corp, on its most recent balance sheet date, are notes payable totalling \$250,000 with the Provincial Bank. These are 90-day notes, renewable for another 90-day period. These notes should be classified on the balance sheet of Lance Corp as
 - a. current liabilities.
 - b. deferred charges.
 - c. long-term liabilities.
 - d. shareholders' equity.

5. Which of the following statements is NOT true about recognition and subsequent accounting for financial liabilities?
 - a. They are initially recognized at their fair value.
 - b. After acquisition, they continue to be accounted for at fair value.
 - c. After acquisition, they are generally accounted for at amortized cost.
 - d. Short term liabilities, such as accounts payable, are usually recorded at their maturity value.

6. Regarding zero-interest-bearing notes,
 - a. they do not have an interest component.
 - b. the debtor receives the future value of the note and pays back the present value.
 - c. any interest is never recognized until the note is repaid.
 - d. the debtor receives the present value of the note and pays back the future value.

7. Under IFRS, even if the entity plans to refinance long term debt, the current portion must be reported as a current liability UNLESS
 - a. long term financing has been completed after the balance sheet date, but before the financial statements are released.
 - b. management intends to refinance the debt on a long-term basis.
 - c. at balance sheet date, the entity expects to refinance under an existing agreement for at least a year, and the decision is solely at its discretion.
 - d. management intends to discharge the debt by issuing shares.
8. Which of the following should NOT be included in the current liabilities section of the balance sheet?
 - a. Trade accounts payable.
 - b. Short-term zero-interest-bearing notes payable.
 - c. A liability due on demand (callable debt).
 - d. Current portion of long term debt to be retired by non-current assets.
9. Which of the following is a current liability?
 - a. Preferred dividends in arrears.
 - b. Stock dividends distributable.
 - c. Preferred cash dividends payable.
 - d. Stock splits.
10. Stock dividends distributable should be classified on the
 - a. income statement as an expense.
 - b. balance sheet as an asset.
 - c. balance sheet as a liability.
 - d. balance sheet as an item of shareholders' equity.
11. Goods and Services Tax (GST)
 - a. is a value added tax.
 - b. is a sales tax charged by each province on all taxable goods.
 - c. in some provinces, is an income tax.
 - d. must be collected by all businesses in Canada.
12. Which of the following may be classified as a current liability?
 - a. Stock dividends distributable.
 - b. Accounts receivable credit balances.
 - c. Losses expected to be incurred within the next twelve months in excess of the company's insurance coverage.
 - d. Tenant's rent deposit not returnable until the end of a long-term lease.
13. Accounting for GST includes
 - a. crediting GST Payable to record GST paid on inventory for resale.
 - b. crediting GST Recoverable to record GST collected from customers.
 - c. debiting GST Recoverable to record GST paid to suppliers.
 - d. debiting GST Payable to record GST collected from customers.

14. Regarding Provincial Sales Tax (PST)
- All PST paid is recorded in a "PST Expense" account.
 - All PST paid is recorded in a "PST Recoverable" account.
 - The purchaser includes any PST paid in the cost of the goods or services.
 - For balance sheet presentation, a PST registrant "nets" any PST paid against any PST collected from customers.
15. Which of the following statements is FALSE?
- A company may exclude a short-term obligation from current liabilities if, at balance sheet date, the entity expects to refinance under an existing agreement for at least a year, and the decision is solely at its discretion.
 - Cash dividends should be recorded as a liability when they are declared by the board of directors.
 - Under the cash basis method, warranty costs are charged to expense as they are paid.
 - Federal income taxes withheld from employees' payroll cheques should never be recorded as a liability.
16. Corporation income taxes payable
- must always be approved by an external auditor.
 - are reviewed and approved by Canada Revenue Agency (CRA).
 - also apply to proprietorships and partnerships.
 - are always the same under GAAP and Canadian tax laws.
17. Which of the following are included in an employer's payroll costs?
- Employee income tax deducted, CPP/QPP and EI contributions.
 - CPP/QPP and EI contributions, union dues.
 - CPP/QPP and EI contributions only.
 - EI contributions, union dues, and employee income tax deducted.
18. Accumulating rights to benefits (for employees)
- Are often mandated by provincial labour law.
 - Include vested rights that do not depend on the employee's continued service.
 - Are rights that accrue with employee service.
 - All of these statements are correct.
19. A liability for compensated absences such as vacations, for which it is expected that employees will be paid, should
- be accrued during the period when the compensated time is expected to be used by employees.
 - be accrued during the period following vesting.
 - be accrued during the period when earned.
 - not be accrued unless a written contractual obligation exists.

20. Non-accumulating rights to benefits, such as parental leave, are generally accounted for by
- The full accrual method.
 - The event accrual method.
 - The cash method.
 - Financial statement note disclosure only.
21. Which of the following may be used as a basis for calculating bonuses or profit sharing amounts?
- a percentage of the employees' regular pay rates.
 - the company's annual profit.
 - productivity increases.
 - all of the above may be used.
22. Under IFRS, a provision is
- a special fund set aside to pay long-term debt.
 - unearned revenue.
 - a liability of uncertain timing or amount.
 - an allowance for future dividends to be paid.
23. At the time of recognition of an asset retirement obligation, the present value should be
- added to the related asset cost and recorded as an asset retirement obligation.
 - expensed and recorded as an asset retirement obligation.
 - expensed to "Asset Retirement Expense" in the period actually paid.
 - recorded as a separate long-term asset and as an asset retirement obligation.
24. An asset retirement obligation should be recognized when
- an asset is impaired and is available for sale.
 - operation of an asset has resulted in an additional obligation such as the cost of cleaning up an oil spill.
 - there is a legal obligation to restore the site of the asset at the end of its useful life.
 - the company has an obligation to purchase a long-lived asset.
25. Which of the following statements is INCORRECT regarding the recording of the related increase or accretion in the carrying amount of an asset retirement obligation (ARO)?
- Under private enterprise standards, it is recognized as interest expense.
 - Under private enterprise standards, it is recognized as an operating expense (but not as interest expense).
 - Under IFRS, it is recognized as a borrowing cost.
 - The amount should be calculated using the same discount (interest rate) as was used to calculate the initial present value of the ARO.
26. Using the revenue approach to account for product guarantees and warranty obligations
- the liability is measured at the estimated cost of meeting the obligation.
 - there is no effect on future income.
 - the liability is measured at the value of the services to be provided.
 - the liability is measured at the value of the services to be provided but there is no effect on future income.

27. Which of the following statements is INCORRECT concerning warranties?
- Using the expense approach, the warranty is provided with the product or service for free.
 - Where warranty costs are immaterial or when the warranty period is quite short, the warranty costs may be accounted for using the cash basis.
 - Using the revenue approach, the warranty is a separate deliverable from the related product or service.
 - The revenue approach must be used for income tax purposes.
28. The current (commonly used) accounting treatment for premiums and coupons requires that the costs should
- be recorded at the maximum possible redemption cost in the year of the related sales.
 - be recorded at the total estimated redemption cost in the year of the related sales.
 - be recorded in the year(s) that the redemption is expected to occur.
 - not be recorded at all.
29. Under private enterprise standards, a contingent liability is recognized if
- it is certain that funds are available to settle the contingency.
 - an asset may have been impaired.
 - the amount of the loss can be reasonably estimated and it is likely that an asset has been impaired or a liability incurred as of the financial statement date.
 - it is likely that an asset has been impaired or a liability incurred even though the amount of the loss cannot be reasonably estimated.
30. Under current IFRS requirements, a contingent liability is recognized if
- the amount of the loss can be reliably estimated and it is probable that an asset has been impaired or a liability incurred as of the financial statement date.
 - the amount of the loss cannot be measured reliably but it is probable that an asset has been impaired or a liability incurred as of the financial statement date.
 - it relates to a lawsuit commenced after the balance sheet date, the outcome of which can be reliably measured.
 - it relates to an asset recognized as impaired after the balance sheet date.
31. Which of the following may be accrued as a contingent liability?
- Threat of expropriation of assets.
 - Pending or threatened litigation.
 - Guarantees of indebtedness of others.
 - All of the above.
32. According to the *Exposure Draft of Proposed Amendments to IAS 37, Provisions, Contingent Liabilities and Contingent Assets*
- Only conditional obligations are recorded.
 - Liabilities must have measurement certainty.
 - The term "contingent liabilities" is eliminated.
 - A conditional obligation related to an unconditional obligation is not recognized.

33. Which of the following commitments would NOT require disclosure in the financial statement notes?
 - a. Major property, plant and equipment expenditures.
 - b. Payments under non-cancellable operating leases.
 - c. Large purchases of materials in the normal course of business.
 - d. Commitments involving significant risk.

34. The numerator of the acid-test ratio consists of
 - a. total current assets.
 - b. cash and marketable securities.
 - c. cash and net receivables.
 - d. cash, marketable securities, and net receivables.

35. The denominator of the days payable outstanding ratio consists of
 - a. average daily sales.
 - b. average trade accounts payable.
 - c. average daily cost of goods sold.
 - d. average trade accounts receivable.

36. What are the current International Financial Reporting Standards regarding customer loyalty programs (such as frequent flyer points)?
 - a. They are recognized only in the financial statement notes.
 - b. They are recognized only when customers redeem their points.
 - c. They are not explicitly addressed.
 - d. The current proceeds are to be split between the original transaction and the award credits (as unearned revenue).

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | c | 7. | c | 13. | c | 19. | c | 25. | a | 31. | d |
| 2. | b | 8. | d | 14. | c | 20. | b | 26. | c | 32. | c |
| 3. | b | 9. | c | 15. | d | 21. | d | 27. | d | 33. | c |
| 4. | a | 10. | d | 16. | b | 22. | c | 28. | b | 34. | d |
| 5. | b | 11. | a | 17. | c | 23. | a | 29. | c | 35. | c |
| 6. | d | 12. | b | 18. | d | 24. | c | 30. | a | 36. | d |

MULTIPLE CHOICE—Computational

37. Binnie Corp. signed a three-month, zero-interest-bearing note on November 1, 2011 for the purchase of \$40,000 of inventory. The maturity value of the note was \$40,600, based on the bank's discount rate of 6%. The adjusting entry prepared on December 31, 2011 in connection with this note will include a
- debit to Note Payable for \$400.
 - credit to Note Payable for \$400.
 - debit to Interest Expense for \$600.
 - credit to Interest Expense for \$400.
38. Carter Ltd borrowed \$90,000 from their bank on December 1, 2011, by signing a four-month, 7% interest bearing note. Assuming the company has a December 31 year end and does not use reversing entries, the journal entry to record payment of this note on April 1, 2012 will include a
- credit to Note Payable of \$90,000.
 - debit to Interest Expense of \$2,100.
 - debit to Interest Payable of \$1,575.
 - debit to Interest Payable of \$525.
39. On February 10, 2011, after issuance of its financial statements for calendar 2010, Hull Corp entered into a financing agreement with Gigantic Bank, allowing Hull Corp to borrow up to \$6,000,000 at any time through 2013. Amounts borrowed under the agreement bear interest at 2% above the bank's prime interest rate and mature two years from the date of loan. Hull presently has \$2,250,000 of notes payable with Provincial Bank maturing March 15, 2011. The company intends to borrow \$3,750,000 under the agreement with Gigantic and pay off the notes payable to Provincial. The agreement with Gigantic also requires Hull to maintain a working capital level of \$9,000,000 and prohibits the payment of dividends on common shares without prior approval by Gigantic. From the above information only, the total short-term debt of Hull Corp as of the December 31, 2010 balance sheet date is
- \$0.
 - \$2,250,000.
 - \$3,000,000.
 - \$6,000,000.
40. On December 31, 2010, Street Ltd. has \$4,000,000 of short-term notes payable due on February 14, 2011. On January 10, 2011, they arranged a line of credit with Regal Bank, which allows Street to borrow up to \$3,000,000 at 1% above the prime rate for three years. On February 2, 2011, Street borrowed \$2,400,000 from Regal Bank and used \$1,000,000 additional cash to liquidate \$3,400,000 of the short-term notes payable. The amount of the short-term notes payable that should be reported as current liabilities on Street's December 31, 2010 balance sheet (to be issued on March 5, 2011) is
- \$0.
 - \$600,000.
 - \$2,400,000.
 - \$4,000,000.

41. Diamond Co. is a retail store operating in a province with a 6% retail sales tax. The store must also collect 5% GST on all sales. For the month of May, Diamond Co. sold \$45,000 worth of goods to customers, 60% of which were cash sales and the balance being on account. Based on the above information, what is the total debit to Accounts Receivable for the month of May?
- \$29,970.
 - \$19,980.
 - \$18,900.
 - \$18,000.
42. Emerald Ltd, a GST registrant, buys \$3,700 worth of Office Supplies for its own use. The purchase is subject to 8% provincial tax and 5% GST. What amount will be debited to the Office Supplies account as a result of this transaction?
- \$4,181.
 - \$3,996.
 - \$3,885.
 - \$3,700.
43. On Dec 12, 2010, Pearl Gold, CGA, received \$1,000 from a customer as an advance payment for accounting work to be done. The payment was credited to Accounting Revenue. Thirty percent of the work was performed in December 2010, with the rest to be done in January 2011, at which time the customer will be billed. The required adjusting entry at December 31, 2010 (year end) is
- Dr Unearned Revenue \$300, Cr Accounting Revenue \$300.
 - Dr Accounting Revenue \$300, Cr Unearned Revenue \$300.
 - Dr Accounting Revenue \$700, Cr Unearned Revenue \$700
 - Dr Unearned Revenue \$700, Cr Accounting Revenue \$700.
44. The total payroll of Angela Company for the month of October was \$240,000, subject to CPP/QPP contributions of 4.95% and employment insurance contributions of 1.73%. As well, \$60,000 in federal income taxes and \$6,000 of union dues were withheld. What amount should Angela record as employer payroll tax expense for October?
- \$17,692.80.
 - \$23,692.80.
 - \$16,032.00.
 - \$76,032.00.
45. At December 31, 2011, Roger's records show the following balances, all of which are normal: PST Payable, \$625; GST Payable, \$600; GST Recoverable, \$488. In January 2012, Roger pays the Federal Government the net amount owing regarding GST owing from December. The journal entry to record this payment will include a
- debit to GST Payable of \$112.
 - credit to Cash of \$600.
 - credit to GST Payable of \$600.
 - credit to GST Recoverable of \$488.

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Use the following information for questions 46 and 47.

Oliver Company has 35 employees who work 8-hour days and are paid hourly. On January 1, 2010, the company began a program of granting its employees 10 days paid vacation each year. Vacation days earned in 2010 may be taken starting on January 1, 2011. Information relative to these employees is as follows:

| <u>Year</u> | <u>Hourly Wages</u> | <u>Vacation Days Earned by Each Employee</u> | <u>Vacation Days Used by Each Employee</u> |
|-------------|---------------------|--|--|
| 2010 | \$12.90 | 10 | 0 |
| 2011 | 13.50 | 10 | 8 |
| 2012 | 14.25 | 10 | 10 |

Oliver has chosen to accrue the liability for compensated absences (vacation pay) at the current rates of pay in effect when the vacation pay is earned.

46. What is the amount of vacation pay expense that should be reported on Oliver's income statement for 2010?
- \$37,800.
 - \$36,120.
 - \$34,440.
 - \$ 0.
47. What is the amount of the Vacation Wages Payable that should be reported at December 31, 2012?
- \$39,900.
 - \$45,360.
 - \$47,460.
 - \$47,880.
48. William Corp uses the expense approach to account for warranties. They sell a used car for \$15,000 on Oct 25, 2011, with a one year warranty covering parts and labour. Warranty expense is estimated at 2% of the selling price, and the appropriate adjusting entry is recorded at Dec 31, 2011. On March 12, 2012, the car is returned for warranty repairs. This cost William \$100 in parts and \$60 in labour. When recording the March 12, 2012 transaction, William would debit Warranty Expense with
- Zero.
 - \$ 60.
 - \$100.
 - \$160.
49. Luke Machinery Ltd has made a total of \$46,500 in instalments for corporate income tax for 2011, which have been debited to Current Income Tax Expense. At year end, Dec 31, 2011, the accountant has calculated that the corporation's actual tax liability is only \$43,000. What is the correct adjusting entry to reflect this fact?
- Dr Current Income Tax Expense \$3,500, Cr Income Taxes Payable \$3,500.
 - Dr Income Taxes Payable, \$3,500, Cr Current Income Tax Expense \$3,500.
 - Dr Income Taxes Receivable \$3,500, Cr Current Income Tax Expense \$3,500.
 - Dr Current Income Tax Expense \$43,000, Cr Income Taxes Payable \$43,000.

Use the following information for questions 50 and 51.

Arabella Inc. has developed a new gold mine in 2010 and is required by provincial law to reclaim the site once mining operations are completed. The company estimates that the mine will close in 20 years and that the mine reclamation will cost \$5,000,000. Arabella uses a 6% discount rate.

50. The entry to record the asset retirement obligation is
- | | | |
|-----------------------------|-----------|-----------|
| a. Reclamation Expense | 93,541 | |
| Asset Retirement Obligation | | 93,541 |
| b. Reclamation Expense | 250,000 | |
| Asset Retirement Obligation | | 250,000 |
| c. Gold Mine | 5,000,000 | |
| Asset Retirement Obligation | | 5,000,000 |
| d. Gold Mine | 1,559,024 | |
| Asset Retirement Obligation | | 1,559,024 |
51. The entry to record accretion at the end of one year is
- | | | |
|-----------------------------|---------|---------|
| a. Accretion Expense | 250,000 | |
| Asset Retirement Obligation | | 250,000 |
| b. Accretion Expense | 93,541 | |
| Asset Retirement Obligation | | 93,541 |
| c. Gold Mine | 93,541 | |
| Asset Retirement Obligation | | 93,541 |
| d. Interest Expense | 93,541 | |
| Asset Retirement Obligation | | 93,541 |
52. Wendy Corp. is being sued for illness caused to local residents as a result of negligence on the company's part in permitting the local residents to be exposed to highly toxic chemicals. Wendy's lawyer states that it is likely that Wendy will lose the suit and be found liable for a judgement costing Wendy anywhere from \$600,000 to \$3,000,000. However, the lawyer states that the most likely cost is \$1,800,000. As a result of the above facts, Wendy should accrue
- a. a loss contingency of \$600,000 and disclose an additional contingency of up to \$2,400,000.
 - b. a loss contingency of \$1,800,000 and disclose an additional contingency of up to \$1,200,000.
 - c. a loss contingency of \$1,800,000 but not disclose any additional contingency.
 - d. no loss contingency but disclose a contingency of \$600,000 to \$3,000,000.
53. Peterboro Corp uses the revenue approach to account for warranties. During 2010, the company sold \$500,000 worth of products, all of which carried a two year warranty (included in the price). It was estimated that 2% of the selling price represented the warranty portion, and that 60% of this related to 2010, and 40% to 2011. Assuming that Peterboro incurred costs of \$3,700 to service the contract in 2011, what is the net warranty revenue (revenue minus servicing costs) for 2011?
- a. \$300.
 - b. \$1,300.
 - c. \$3,700.
 - d. \$4,000.

54. In 2010, Persimmon Corp began selling a new line of products that carry a two-year warranty against defects. Based upon past experience with other products, the estimated warranty costs related to dollar sales are as follows:

| | |
|-------------------------|----|
| First year of warranty | 2% |
| Second year of warranty | 5% |

Sales and actual warranty expenditures for 2010 and 2011 are presented below:

| | | |
|------------------------------|-------------|-------------|
| | <u>2010</u> | <u>2011</u> |
| Sales | \$450,000 | \$600,000 |
| Actual warranty expenditures | 15,000 | 30,000 |

Persimmon uses the expense approach to account for warranties. What is the estimated warranty liability at the end of 2011?

- a. \$73,500.
 b. \$43,500.
 c. \$28,500.
 d. \$12,000.
55. At January 1, 2011, Ball Corp. owned a machine that had cost \$100,000. The accumulated depreciation to date was \$60,000, estimated residual value was \$6,000, and fair value was \$160,000. On January 4, 2011, this machine suffered major damage due to Snow Corp's actions and was written off as worthless. In October 2011, a court awarded damages of \$160,000 against Snow in favour of Ball. At December 31, 2011, the final outcome of this case was awaiting appeal and was, therefore, uncertain. However, in the opinion of Ball's attorney, Snow's appeal will be denied. At December 31, 2011, what amount should Ball accrue for this gain contingency?
- a. \$160,000.
 b. \$130,000.
 c. \$100,000.
 d. \$0.
56. Craft Foods distributes coupons to consumers which may be presented (on or before a stated expiry date) to grocery stores for discounts on certain Craft products. The stores are reimbursed when they send the coupons to Craft. In Craft's experience, only about 50% of these coupons are redeemed. During 2011, Craft issued two separate series of coupons as follows:

| <u>Issued On</u> | <u>Total Value</u> | <u>Coupon Expiry Date</u> | <u>Amounts Reimbursed as of Dec 31/11</u> |
|------------------|--------------------|---------------------------|---|
| Jan 1/11 | \$250,000 | Jun 30/11 | \$118,000 |
| Jul 1/11 | 360,000 | Dec 31/11 | 150,000 |

Craft's only journal entries for 2011 recorded debits to coupon expense, and credits to cash of \$268,000. Their December 31, 2011 balance sheet should include a liability for unredeemed coupons of

- a. \$0.
 b. \$30,000.
 c. \$62,000.
 d. \$180,000.

57. Presented below is information available for Lozell Company.

| | |
|-----------------------|------------------|
| Current Assets | |
| Cash | \$ 4,000 |
| Marketable securities | 75,000 |
| Accounts receivable | 61,000 |
| Inventories | 110,000 |
| Prepaid expenses | <u>30,000</u> |
| Total current assets | <u>\$280,000</u> |

Total current liabilities are \$80,000. To two decimals, the acid-test ratio for Lozell is

- a. 3.50
- b. 3.13
- c. 1.75
- d. .81

58. Park Inc's most recent balance sheet includes

| | |
|---------------------------|---------|
| Cash | \$7,500 |
| Accounts receivable | 10,000 |
| Inventory | 13,300 |
| Plant and equipment (net) | 73,700 |
| Accounts payable | 14,000 |
| Long term bonds payable | 50,000 |
| Common shares | 20,000 |
| Retained earnings | 20,500 |

To two decimals, Park Inc has a current ratio of

- a. .27
- b. .48
- c. 1.63
- d. 2.20

59. Jasminster Corp provides the following information for 2011 and 2012:

| | <u>2011</u> | <u>2012</u> |
|---------------------------|-------------|-------------|
| Current assets | \$23,000 | \$27,000 |
| Accounts payable | 9,000 | 10,000 |
| Other current liabilities | 5,000 | 4,000 |
| Non-current liabilities | 50,000 | 62,000 |
| Sales | 125,000 | 135,000 |
| Cost of goods sold | 75,000 | 79,600 |

To one decimal, Jasminster's days payable outstanding for 2012 is

- a. 43.6 days.
- b. 46.2 days.
- c. 47.2 days.
- d. 48.7 days

60. Information regarding Heather Manufacturing’s payroll for the period ending March 22 follows:

| | |
|--------------------------|--------------------------------|
| Gross salaries and wages | \$75,000 |
| CPP rate | 4.95% |
| EI rate | 1.73% |
| Company pension deducted | 5% of gross salaries and wages |
| Union dues (total) | \$ 650 |

Assume 100% of the gross salaries and wages are subject to CPP and EI. Therefore, the NET pay for this period is

- a. \$61,877.50.
- b. \$65,590.00.
- c. \$66,240.00.
- d. \$69,340.00.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 37. | b | 41. | b | 45. | d | 49. | c | 53. | a | 57. | c |
| 38. | d | 42. | b | 46. | b | 50. | d | 54. | c | 58. | d |
| 39. | b | 43. | c | 47. | c | 51. | b | 55. | d | 59. | a |
| 40. | d | 44. | a | 48. | a | 52. | b | 56. | b | 60. | b |

MULTIPLE CHOICE—CPA Adapted

61. Which of the following is generally associated with current liabilities classified as accounts payable?

| | <u>Periodic Payment of Interest</u> | <u>Secured by Collateral</u> |
|----|---|----------------------------------|
| a. | No | No |
| b. | No | Yes |
| c. | Yes | No |
| d. | Yes | Yes |

62. Included in Lennon Inc's account balances at December 31, 2011, were the following:

| | |
|---|-----------|
| 4% note payable issued October 1, 2011, maturing September 30, 2012 | \$250,000 |
| 6% note payable issued April 1, 2011, payable in six equal annual instalments of \$100,000 beginning April 1, 2012 | 600,000 |

Lennon's December 31, 2011 financial statements were to be issued on March 31, 2012. On January 15, 2012, the entire \$600,000 balance of the 6% note was refinanced by issuance of a long-term note to be repaid in 2015. In addition, on March 10, 2012, Lennon made arrangements to refinance the 4% note on a long-term basis. On the December 31, 2011 balance sheet, the amount of the notes payable that Lennon should classify as current liabilities is

- a. \$350,000.
b. \$250,000.
c. \$100,000.
d. \$0.
63. On January 1, 2011, Wick Ltd. leased a building to Candle Corp. for a ten-year term at an annual rental of \$90,000. At the inception of the lease, Wick received \$360,000 covering the first two years' rent of \$180,000 and a security deposit of \$180,000. This deposit will not be returned to Candle upon expiration of the lease but will be applied to payment of rent for the last two years of the lease. What portion of the \$360,000 should be shown as a current and long-term liability, respectively, in Wick's December 31, 2011 balance sheet?

| | <u>Current Liability</u> | <u>Long-term Liability</u> |
|----|--------------------------|----------------------------|
| a. | \$ 0 | \$360,000 |
| b. | \$ 90,000 | \$180,000 |
| c. | \$180,000 | \$180,000 |
| d. | \$180,000 | \$ 90,000 |

64. On September 1, 2011, Wells Co. issued a \$900,000, 12% note to Fargo Bank, payable in three equal annual principal payments of \$300,000. On this date, the bank's prime rate was 11%. The first payment for interest and principal was made on September 1, 2012. At December 31, 2012, Wells should record accrued interest payable of
- \$36,000.
 - \$33,000.
 - \$24,000.
 - \$22,000.

65. Barrett Company's salaried employees are paid biweekly. Occasionally, advances made to employees are paid back by payroll deductions. Information relating to salaries for the calendar year 2011 is as follows:

| | |
|---------------------------------------|-----------|
| Employee advances | \$ 12,000 |
| Accrued salaries payable | 91,000 |
| Salaries expense during the year | 910,000 |
| Salaries paid during the year (gross) | 875,000 |

At December 31, 2011, what amount should Barrett report for accrued salaries payable?

- \$126,000.
 - \$120,000.
 - \$108,000.
 - \$35,000.
66. Roswell Co. sells major household appliance service contracts for cash. The service contracts are for a one-year, two-year, or three-year period. Cash receipts from contracts are credited to unearned service contract revenues. This account had a balance of \$600,000 at December 31, 2010 before year-end adjustment. Service contract costs are charged as incurred to the service contract expense account, which had a balance of \$150,000 at December 31, 2010. Outstanding service contracts at December 31, 2010 expire as follows:

| | | |
|--------------------|--------------------|--------------------|
| <u>During 2011</u> | <u>During 2012</u> | <u>During 2013</u> |
| \$125,000 | \$200,000 | \$90,000 |

What amount should be reported as unearned service contract revenues in Roswell's December 31, 2010 balance sheet?

- \$450,000.
- \$415,000.
- \$300,000.
- \$275,000.

67. Josslyn Trading Stamp Co. records trading stamp revenue and provides for the cost of redemptions in the year stamps are sold to licensees. Josslyn's past experience indicates that only 80% of the stamps sold to licensees will be redeemed. Josslyn's liability for stamp redemptions was \$6,000,000 at December 31, 2010. Additional information for 2011 is as follows:

| | |
|---|-------------|
| Stamp revenue from stamps sold to licensees | \$4,000,000 |
| Cost of redemptions | 2,700,000 |

If all the stamps sold in 2011 were presented for redemption in 2012, the redemption cost would be \$2,000,000. What amount should Josslyn report as a liability for stamp redemptions at December 31, 2011?

- \$7,300,000.
 - \$5,300,000.
 - \$4,900,000.
 - \$3,300,000.
68. Quinn Corp.'s payroll for the pay period ended October 31, 2011 is summarized as follows:

| Department Payroll | Total Wages | Income Tax Withheld | Amount of Wages Subject to Payroll Taxes | |
|-----------------------|------------------|------------------------|---|-----------------|
| | | | CPP/QPP | EI |
| Factory | \$ 75,000 | \$10,000 | \$66,000 | \$22,000 |
| Sales | 22,000 | 3,000 | 16,000 | 2,000 |
| Office | 18,000 | 2,000 | 8,000 | — |
| | <u>\$115,000</u> | <u>\$15,000</u> | <u>\$90,000</u> | <u>\$24,000</u> |

Assume the following payroll tax rates:

| | |
|-----------------------------------|---|
| CPP/QPP for employer and employee | 4.95% each |
| Employment Insurance | 1.73% for employee 1.4 times employee premium for employer |

To the nearest dollar, what amount should Quinn accrue as its share of payroll taxes in its October 31, 2011 balance sheet?

- \$ 4,870.
 - \$ 5,036.
 - \$ 6,274.
 - \$20,036.
69. Snow Co. has a likely loss that can only be reasonably estimated within a range of outcomes. No single amount within the range is a better estimate than any other amount. The loss accrual should be
- zero.
 - the maximum of the range.
 - the mean of the range.
 - the minimum of the range.

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70. Harrison Corp operates in British Columbia, selling a variety of goods. For most of these goods, Harrison must charge Harmonized Sales Tax (HST) of 12%; for some they only have to charge 5% HST; while a very few are tax exempt. During June of this year, the company reported sales of \$200,000, on which 70% were charged 12% HST, 25% were charged only 5% HST, and the rest were tax exempt sales. The total amount of HST collected in June was
- \$13,500.
 - \$18,000.
 - \$19,300.
 - \$22,800.
71. On April 30, 2011, Canadian Oil Corp. purchased an oil tanker depot at a cost of \$600,000 cash. The company expects to operate this depot for eight years, at which time they will be legally required to dismantle the structure and remove the underground storage tanks. Canadian Oil estimates this asset retirement obligation (ARO) will cost \$100,000. Assuming a 5% discount rate, to the nearest dollar, the amount to be recorded as the ARO is
- \$ 12,500.
 - \$ 67,684.
 - \$ 75,000.
 - \$100,000

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 61. | a | 63. | b | 65. | a | 67. | c | 69. | d | 71. | b |
| 62. | a | 64. | c | 66. | b | 68. | b | 70. | c | | |

DERIVATIONS—Computational

| No. | Answer | Derivation |
|-----|--------|--|
| 37. | b | $\$40,000 \times 6\% \times 2/12 = \$400.$ |
| 38. | d | Interest payable recorded Dec 31/11 $\$90,000 \times 7\% \times 1/12 = \$525.$ |
| 39. | b | $\$2,250,000$ (no agreement in place at year end). |
| 40. | d | $\$4,000,000$ (no agreement in place at year end). |
| 41. | b | $\$45,000 \times 40\% \times 1.11 = \$19,980.$ |
| 42. | b | $\$3,700 \times 1.08 = \$3,996.$ |
| 43. | c | Remove 70% of revenue and transfer to liability |
| 44. | a | $(\$240,000 \times 4.95\%) + (\$240,000 \times 1.73\% \times 1.4) = \$17,692.80.$ |
| 45. | d | Clear GST Recoverable account. |
| 46. | b | $\$12.90 \times 8 \times 10 \times 35 = \$36,120.$ |
| 47. | c | $(\$14.25 \times 8 \times 10 \times 35) + (\$13.50 \times 8 \times 2 \times 35) = \$47,460.$ |
| 48. | a | Debit is to the liability account. |
| 49. | c | $\$46,500 - \$43,000 = \$3,500$ overpaid = Income Taxes Receivable. |
| 50. | d | PV of $\$5,000,000$ at 6% for 20 years. |
| 51. | b | $\$1,559,024 \times 6\% = \$93,541.$ |
| 52. | b | $\$1,800,000$ and $\$1,200,000.$ |
| 53. | a | $\$500,000 \times 2\% \times 40\% = \$4,000 - \$3,700$ costs = $\$300.$ |
| 54. | c | $[\$450,000 + \$600,000 \times .07] - \$45,000 = \$28,500.$ |
| 55. | d | $\$0$, gain contingencies are not accrued. |
| 56. | b | $(\$360,000 \times .5) - \$150,000 = \$30,000.$ |
| 57. | c | $\frac{\$4,000 + \$75,000 + \$61,000}{\$80,000} = 1.75$ |

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58. d $\frac{7,500 + 10,000 + 13,300}{14,000} = 2.20$
59. a $\frac{(10,000 + 9,000)/2}{79,600/365} = 43.6 \text{ days}$
60. b $\$75,000 - (75,000 \times (.0495 + .0173 + .05)) - 650 = \$65,590$

DERIVATIONS—CPA Adapted**No. Answer Derivation**

61. a Conceptual—accounts payable generally are zero-interest-bearing and unsecured.
62. a $250,000 + 100,000 = \$350,000.$
63. b $\$90,000$ and $\$180,000.$
64. c $\$600,000 \times .12 \times \frac{4}{12} = \$24,000.$
65. a $\$910,000 + \$91,000 - \$875,000 = \$126,000.$
66. b $\$125,000 + \$200,000 + \$90,000 = \$415,000.$
67. c $\$6,000,000 + (\$2,000,000 \times .8) - \$2,700,000 = \$4,900,000.$
68. b $(\$90,000 \times .0495) + (\$24,000 \times .0173 \times 1.4) = \$5,036.$
69. d Conceptual.
70. c $(\$200,000 \times 12\% \times 70\%) + (\$200,000 \times 5\% \times 25\%) = \$19,300.$
71. b 8 N 5 I/Y 100000 FV CPT PV => 67,684.

EXERCISES

Ex. 13-72—Notes payable.

On August 31, 2011, Kalamazoo Corp paid the Majestic Bank part of an outstanding \$150,000 long term 10% note payable obtained one year ago, by paying \$90,000 plus \$9,000 interest. In order to do this, Kalamazoo used \$26,200 cash and signed a new one-year, zero-interest-bearing \$80,000 note discounted at 9% by Majestic (i.e. the bank deducted 9% from the \$80,000).

Instructions

- (1) Prepare the entry to record the refinancing.
- (2) Prepare the adjusting entry at December 31, 2011 in connection with the new zero-interest-bearing note.

Solution 13-72

| | | | |
|-----|---|--------|--------|
| (1) | Notes Payable | 90,000 | |
| | Interest Expense | 9,000 | |
| | Notes Payable (\$80,000 x 91%) | | 72,800 |
| | Cash | | 26,200 |
| | | | |
| (2) | Interest Expense (\$72,800 x 9% x 4/12) | 2,184 | |
| | Notes Payable | | 2,184 |

Ex. 13-73—Payroll entries.

The total payroll of Luton Co. was \$460,000. Income taxes withheld were \$110,000. The employment insurance is 1.73% for the employee and 1.4 times the employee premium for the employer. The CPP/QPP contributions are 4.95% for both.

Instructions

- (a) Prepare the journal entry for the wages and salaries paid.
- (b) Prepare the entry to record the employer payroll taxes.

Solution 13-73

| | | | |
|--|--|---------|---------|
| (a) | Wages and Salaries Expense | 460,000 | |
| | Employee Income Tax Deductions Payable | | 110,000 |
| | Employment Insurance Payable | | 7,958* |
| | CPP/QPP Contributions Payable | | 22,770* |
| | Cash | | 319,272 |
| * (\$460,000 × 1.73%) = \$7,958; (\$460,000 × 4.95%) = \$22,770. | | | |
| | | | |
| (b) | Payroll Tax Expense | 33,911 | |
| | Employment Insurance Payable (\$7,958 × 1.4) | | 11,141 |
| | CPP/QPP Contributions Payable | | 22,770 |

Ex. 13-74—Compensated absences.

Spock Ltd. began operations on January 2, 2011. The company employs 15 people who work 8-hour days. Each employee earns 10 paid vacation days annually. Vacation days may be taken after January 10 of the year following the year in which they are earned. The average hourly wage rate was \$12.00 in 2011 and \$12.75 in 2012. The average vacation days used by each employee in 2012 was 9. Spock accrues the cost of compensated absences at rates of pay in effect when earned.

Instructions

Prepare journal entries to record the transactions related to paid vacation days during 2011 and 2012.

Solution 13-74

| | | | | |
|------|---|--------|-----|------------|
| 2011 | Wages Expense | 14,400 | (1) | |
| | Vacation Wages Payable | | | 14,400 |
| | (1) $15 \times 8 \times \$12.00 = \$1,440$; $\$1,440 \times 10 = \$14,400$. | | | |
| 2012 | Wages Expense | 810 | | |
| | Vacation Wages Payable | 12,960 | (2) | |
| | Cash | | | 13,770 (3) |
| | Wages Expense | 15,300 | (4) | |
| | Vacation Wages Payable | | | 15,300 |
| | (2) $\$1,440 \times 9 = \$12,960$. | | | |
| | (3) $15 \times 8 \times \$12.75 = \$1,530$; $\$1,530 \times 9 = \$13,770$. | | | |
| | (4) $\$1,530 \times 10 = \$15,300$. | | | |

Ex.13-75—Sales taxes.

For the month of April, Regina Sales Ltd recorded \$140,000 in sales, 40% of which were on account (terms N30), and 60% of which were cash sales. The company is required to charge 6% Provincial Sales Tax (PST) and 5% Goods and Services Tax (GST) on all sales.

Instructions

Prepare one journal entry to record the company’s sales for April.

Solution 13-75

| | | |
|--|--------|---------|
| Accounts Receivable (140,000 x 1.11 x 40%) | 62,160 | |
| Cash (140,000 x 1.11 x 60%) | 93,240 | |
| Sales Revenue..... | | 140,000 |
| GST Payable (140,000 x 5%)..... | | 7,000 |
| PST Payable (140,000 x 6%)..... | | 8,400 |

Ex.13-76—Asset Retirement Obligation.

Nickel Mines International Ltd discovered a new bauxite deposit, the Flamingo Mine, and began production on January 1, 2011. The province requires mining companies to return the land to its natural state at the end of mining activity. Nickel Mines International Ltd estimates that it will operate the mine for 25 years, at which time it will cost \$25,000,000 for the land reclamation project. Nickel Mines International Ltd uses an 8% discount rate.

Instructions

- (a) Record any obligation for land reclamation as at January 1, 2011.
- (b) Record any entry required related to this obligation at December 31, 2011 .

Solution 13-76

- (a) January 1, 2011

| | | |
|-----------------------------------|-----------|-----------|
| Flamingo Mine | 3,650,447 | |
| Asset Retirement Obligation | | 3,650,447 |

\$3,650,447 is the present value of the \$25,000,000 estimated cost discounted for 25 years at 8%.

- (b) December 31, 2011

| | | |
|-----------------------------------|---------|---------|
| Accretion Expense | 292,036 | |
| Asset Retirement Obligation | | 292,036 |

\$292,036 is the increase in the present value that occurs because you are one year closer to the expenditure. Present value of \$25,000,000 discounted for 24 years at 8% (\$3,942,483) less \$3,650,447.
 OR $3,650,447 \times 8\% = 292,036$

Ex. 13-77—Contingent liabilities.

Below are three independent situations.

1. In August, 2011 a worker was injured in the factory in an accident partially the result of his own negligence. The worker has sued his employer, Simon Corp, for \$800,000. Simon's legal counsel believes it is possible that the outcome of the suit will be unfavourable and that the settlement would cost the company from \$250,000 to \$500,000.
2. A suit for breach of contract seeking damages of \$1,200,000 was filed by an author against Eller Co. on October 4, 2011. Eller's legal counsel believes that an unfavourable outcome is more likely than not. A reasonable estimate of the award to the plaintiff is between \$300,000 and \$900,000. No amount within this range is a better estimate of potential damages than any other amount.
3. Pratt is involved in a pending court case. Pratt's lawyers believe it is likely that Pratt will be awarded damages of \$1,500,000.

Instructions

Discuss the proper accounting treatment, including any required disclosures, for each situation. Give the rationale for your answers. Assume all companies involved use IFRS.

Solution 13-77

1. Simon Corp. should disclose in the notes to the financial statements the existence of a possible contingent liability related to the law suit. The note should indicate the range of the possible loss. The contingent liability should not be accrued because the loss is only possible, not probable (as required by IFRS).
2. The likely award should be accrued by a charge to an estimated loss and a credit to an estimated liability of \$300,000. Eller Co. should disclose the following in the notes to the financial statements: the amount of the suit, the nature of the contingency, the reason for the accrual, and the range of the possible loss.

The accrual is made because it is more likely than not (probable) that a liability has been incurred and the amount of the loss can be reasonably estimated. The lowest amount of the range of possible losses is used when no amount is a better estimate than any other amount.

3. Pratt should not record the gain contingency until it is realized. Usually, gain contingencies are neither accrued nor disclosed. The \$1,500,000 gain contingency should be disclosed only if the likelihood that it will be realized is very high.

Ex. 13-78—Premiums.

Treble Clef Music gives its customers coupons which are redeemable for a poster plus a Dixie Chicks DVD. One coupon is issued for each dollar of sales. On presentation of 100 coupons and \$5.00 cash, the customer receives the poster and DVD. Treble Clef estimates that 80% of the coupons will be presented for redemption. Sales for Year One were \$1,050,000, and 510,000 coupons were redeemed. Sales for Year Two were \$1,260,000, and 1,275,000 coupons were redeemed. Treble Clef bought 30,000 posters at \$2.00 each, and 30,000 DVDs at \$5.50 each.

Instructions

Prepare the following entries for both years, assuming all the coupons expected to be redeemed from Year One were redeemed by the end of Year Two.

| Entry | Year One | Year Two |
|-----------------------------------|----------|----------|
| (a) To record coupons redeemed | | |
| (b) To record estimated liability | | |

Solution 13-78

| Entry | Year One | Year Two |
|--|----------|----------|
| (a) Estimated Liability for Premiums | | 8,250 |
| Premium Expense [(510,000 ÷ 100) x (\$7.50 – \$5)] | 12,750 | *23,625 |
| Cash (510,000 ÷ 100) x \$5 | 25,500 | **63,750 |
| Inventory of Premium Posters and DVDs | 38,250 | 95,625 |
| — *[(1,275,000 ÷ 100) x (7.50 - \$5)] – 8,250 | | |
| **[(1,275,000 ÷ 100) x \$5] | | |
| (b) Premium Expense | *8,250 | 1,575 |
| Estimated Liability for Premiums | 8,250 | 1,575 |
| *[(1,050,000 x .80) – 510,000] ÷ 100 x \$2.50 | | |

Ex. 13-79—Premiums.

Rover Corp. includes one coupon in each bag of dog food it sells. In return for three coupons, customers receive a dog toy that the company purchases for \$1.20 each. Rover's experience indicates that 60% of the coupons will be redeemed. During 2011, 100,000 bags of dog food were sold, 12,000 toys were purchased, and 45,000 coupons were redeemed. During 2012, 120,000 bags of dog food were sold, 16,000 toys were purchased, and 60,000 coupons were redeemed.

Instructions

Determine the premium expense to be reported in the income statement and the estimated liability for premiums on the balance sheet for 2011 and 2012.

Solution 13-79

| | <u>2011</u> | <u>2012</u> |
|----------------------------------|--------------|--------------|
| Premium expense | \$24,000 (1) | \$28,800 (3) |
| Estimated liability for premiums | 6,000 (2) | 10,800 (4) |

(1) $100,000 \times .6 = 60,000$; $60,000 \div 3 = 20,000$; $20,000 \times \$1.20 = \$24,000$.

(2) $45,000 \div 3 = 15,000$; $20,000 - 15,000 = 5,000$; $5,000 \times \$1.20 = \$6,000$.

(3) $120,000 \times .6 = 72,000$; $72,000 \div 3 = 24,000$; $24,000 \times \$1.20 = \$28,800$.

(4) $60,000 \div 3 = 20,000$; $5,000 + 24,000 - 20,000 = 9,000$; $9,000 \times \$1.20 = \$10,800$.

PROBLEMS

Pr. 13-80—Accounts and Notes Payable.

Below are selected transactions of Canary Co. for 2011:

1. On May 10, the company purchased goods from Jay Corp for \$60,000, terms 2/10, n/30. Purchases and accounts payable are recorded at net amounts. The invoice was paid on May 18.
2. On June 1, the company purchased equipment for \$180,000 from Woodpecker Ltd, paying \$60,000 in cash and giving a one-year, 8% note for the balance.
3. On September 30, the company borrowed \$162,000 from the First National Bank by signing a one year, zero-interest-bearing note for \$180,000. The bank’s discount rate was 10%.

Instructions

- (a) Prepare the journal entries necessary to record the transactions above using appropriate dates.
- (b) Prepare the adjusting entries necessary at December 31, 2011 in order to properly report interest expense related to the above transactions.
- (c) Indicate the manner in which the above transactions should be reflected in the Current Liabilities section Canary Co’s December 31, 2011 balance sheet.

Solution 13-80

| | | |
|---|---------|---------|
| <u>May 10, 2011</u> | | |
| Purchases/Inventory (\$60,000 x .98) | 58,800 | |
| Accounts Payable | | 58,800 |
| <u>May 18, 2011</u> | | |
| Accounts Payable | 58,800 | |
| Cash | | 58,800 |
| <u>June 1, 2011</u> | | |
| Equipment | 180,000 | |
| Cash | | 60,000 |
| Notes Payable..... | | 120,000 |
| <u>September 30, 2011</u> | | |
| Cash | 162,000 | |
| Notes Payable..... | | 162,000 |
| (b) | | |
| Interest Expense..... | 5,600 | |
| Interest Payable (\$120,000 × .08 × 7/12) | | 5,600 |
| | | |
| Interest Expense..... | 4,050 | |
| Notes Payable (\$162,000 x 10% x 3/12) | | 4,050 |

Solution 13-80 (Continued)(c) Current Liabilities

| | |
|--|------------------|
| Interest payable | \$ 5,600 |
| Note payable—Woodpecker Ltd | 120,000 |
| Note payable—First Provincial Bank (162,000 + 4,050) | <u>166,050</u> |
| | <u>\$291,650</u> |

Pr. 13-81—Refinancing of short-term debt.

At their last year end, December 31, 2011, the liabilities outstanding of Diamond Corp included the following:

1. Cash dividends on common shares, \$100,000, payable on January 15, 2012.
2. Note payable to Manitoba Bank, \$850,000, due January 20, 2012.
3. Serial bonds, \$2,000,000, of which \$500,000 matures during 2012.
4. Note payable to Victoria Bank, \$200,000, due January 27, 2012.

The following transactions occurred early in 2012:

January 15: The cash dividends were paid.

January 20: The note payable to Manitoba Bank was paid.

January 25: Diamond entered into a financing agreement with Saskatchewan Bank, enabling it to borrow up to \$1,000,000 at any time through the end of 2014. Amounts borrowed under the agreement would bear interest at 1% above the bank's prime rate and would mature 3 years from the date of the loan. The corporation immediately borrowed \$800,000 to replace the cash used in paying its January 20 note to Manitoba Bank.

January 26: 40,000 common shares were issued for \$300,000. \$200,000 of the proceeds was used to pay off the note payable to Victoria Bank.

February 1: The financial statements for 2011 were issued.

Instructions

Prepare a partial balance sheet for Diamond Corp, showing the manner in which the above liabilities should be presented at December 31, 2011. The liabilities should be properly classified between current and long-term, and any appropriate note disclosure should be included.

Solution 13-81

Current liabilities:

| | | |
|--|----------------|-------------|
| Dividends payable on common shares | \$ 100,000 | |
| Notes payable—Manitoba Bank | 850,000 | |
| Note payable—Victoria Bank—Note 1 | 200,000 | |
| Currently maturing portion of serial bonds | <u>500,000</u> | |
| Total current liabilities | | \$1,650,000 |

Long-term debt:

| | | |
|-------------------------------------|------------------|--------------------|
| Serial bonds not maturing currently | <u>1,500,000</u> | |
| Total long-term debt | | <u>1,500,000</u> |
| Total liabilities | | <u>\$3,150,000</u> |

Note 1: On January 26, 2012, the corporation issued 40,000 common shares and received proceeds totalling \$300,000, of which \$200,000 was used to liquidate a note payable that matured on January 27, 2012.

Pr. 13-82—Premiums.

Creamy Candy Company offers a coffee mug as a premium for every ten 50-cent candy bar wrappers presented by customers together with \$1.00. The purchase price of each mug to the company is 90 cents; in addition it costs 60 cents to mail each mug. The results of the premium plan for the years 2011 and 2012 are as follows (assume all purchases and sales are for cash):

| | <u>2011</u> | <u>2012</u> |
|---|-------------|-------------|
| Coffee mugs purchased | 480,000 | 400,000 |
| Candy bars sold | 3,750,000 | 4,500,000 |
| Wrappers redeemed | 1,900,000 | 2,800,000 |
| 2011 wrappers expected to be redeemed in 2012 | 1,300,000 | |
| 2012 wrappers expected to be redeemed in 2013 | | 1,800,000 |

Instructions

- (a) Prepare the general journal entries that should be made in 2011 and 2012 related to the above plan by Creamy Candy.
- (b) Indicate the account names, amounts, and classifications of the items related to the premium plan that would appear on the balance sheet and income statement at the end of 2011 and 2012.

13- 32 Test Bank for Intermediate Accounting, Ninth Canadian Edition

Solution 13-82

| | | | |
|-----|--|-----------|-----------|
| (a) | <u>2011</u> | | |
| | Inventory of Premium Mugs ($480,000 \times \$0.90 = \$432,000$)..... | 432,000 | |
| | Cash | | 432,000 |
| | Cash | 1,875,000 | |
| | Sales ($3,750,000 \times \$0.50 = \$1,875,000$) | | 1,875,000 |
| | Cash [$1,900,000 \div 10 = 190,000 \times (\$1.00 - \$0.60) = \$76,000$]..... | 76,000 | |
| | Premium Expense..... | 95,000 | |
| | Inventory of Premium Mugs ($190,000 \times \$0.90 = \$171,000$)... | | 171,000 |
| | Premium Expense ($1,300,000 \div 10 = 130,000 \times \$0.50 = \$65,000$) . | 65,000 | |
| | Estimated Liability for Premiums | | 65,000 |
| | <u>2012</u> | | |
| | Inventory of Premium Mugs ($400,000 \times \$0.90 = \$360,000$)..... | 360,000 | |
| | Cash | | 360,000 |
| | Cash | 2,250,000 | |
| | Sales ($4,500,000 \times \$0.50 = \$2,250,000$) | | 2,250,000 |
| | Cash [$2,800,000 \div 10 = 280,000 \times (\$1.00 - \$0.60) = \$112,000$]..... | 112,000 | |
| | Estimated Liability for Premiums | 65,000 | |
| | Premium Expense | 75,000 | |
| | Inventory of Premium Mugs ($280,000 \times \$0.90 = \$252,000$)... | | 252,000 |
| | Premium Expense | 90,000 | |
| | Estimated Liability for Premiums | | 90,000 |
| | ($1,800,000 \div 10 = 180,000 \times \$0.50 = \$90,000$) | | |

(b) Balance Sheet

| <u>Name</u> | <u>Classification</u> | <u>2011</u> | <u>2012</u> |
|----------------------------------|-----------------------|-------------|-------------|
| Inventory of Premium Mugs | Current Asset | \$261,000 | \$369,000 |
| Estimated Liability for Premiums | Current Liability | 65,000 | 90,000 |

Income Statement

| <u>Name</u> | <u>Classification</u> | <u>2011</u> | <u>2012</u> |
|-----------------|-----------------------|-------------|-------------|
| Premium Expense | Operating Expense | 160,000 | 165,000 |

Pr. 13-83—Warranties.

Canada Computer Company sells computers for \$2,000 each which includes a 3-year warranty that requires the company to perform periodic services and to replace defective parts. During 2011, the company sold 500 computers. Based on past experience, the company has estimated the total 3-year warranty costs as \$40 for parts and \$80 for labour. (Assume sales all occur at December 31, 2011.)

In 2012, Canada Computer Company incurred actual warranty costs relative to 2011 computer sales of \$5,000 for parts and \$12,000 for labour.

Instructions

- (a) Using the expense warranty approach, prepare the entries to reflect the above transactions (accrual method) for 2011 and 2012.
- (b) Using the cash basis method, what are the Warranty Expense balances for 2011 and 2012?
- (c) The transactions of part (a) create what balance under current liabilities in the 2011 balance sheet?

Solution 13-83

| | | | |
|-----|--|-----------|-----------|
| | <u>2011</u> | | |
| (a) | Accounts Receivable | 1,000,000 | |
| | Sales | | 1,000,000 |
| | Warranty Expense | 60,000 | |
| | Estimated Liability Under Warranties | | 60,000 |
| | | | |
| | <u>2012</u> | | |
| | Estimated Liability Under Warranties | 17,000 | |
| | Inventory..... | | 5,000 |
| | Accrued Payroll | | 12,000 |

- (b) 2011 \$0.
2012 \$17,000.
- (c) 2011 Current Liabilities—Estimated Liability Under Warranties \$20,000.
(The remainder of the \$60,000 liability is a long-term liability.)

Pr 13-84—Common types of current liabilities.

Define and identify common types of current liabilities and how they are valued.

Solution 13-84

Current liabilities are obligations due within one year or the operating cycle where this is longer than one year from the balance sheet date. The liquidation of a current liability is reasonably expected to require the use of current assets or the creation of other current liabilities. Theoretically, liabilities should be measured at the present value of the future outlay of cash required to liquidate them. In practice, current liabilities other than borrowings are usually recorded in accounting records and reported in financial statements at their full maturity value. There are several types of current liabilities, the most common being accounts and notes payable, sales taxes payable, and payroll related obligations.

Pr. 13-85—Employee related liabilities.

Identify and account for the major types of employee-related liabilities

Solution 13-85

Employee related liabilities include (1) payroll deductions, (2) compensated absences and (3) bonus agreements. Payroll deductions are amounts withheld from employees along with the employer's required contributions that have not yet been remitted to the government. Compensated absences earned by employees are company obligations that should be recognized as the employees earn the entitlement to them, provided they can be reasonably measured. Bonuses based on income should be accrued as an expense and liability as the income is earned.

Pr. 13-86—Asset Retirement Obligation.

Extraction Friendly Ltd. specializes in extracting ore. It prides itself for following high environmental standards in the extraction process. On January 1, 2006, Extraction Friendly purchased the rights to use a parcel of land from the province of Quebec. The rights cost \$15,000,000 and allowed the company to extract ore for five years. The company expects to extract the ore evenly over the contract period. At the end of the contract the firm has one year to clean up and restore the land. Extraction Friendly estimates this cost to be \$2,000,000 and expects to incur it evenly over the restoration period.

The firm uses a discounted cash flow method to calculate the fair value of this obligation and believes that 8% is the appropriate discount rate. The company uses the calendar year as its fiscal year.

As a helpful suggestion, students may want to draw a timeline of events before solving the questions given below.

Required:

- Prepare the journal entry(ies) to be recorded on January 1, 2006.
- Prepare the journal entry(ies) to be recorded on December 31, 2006. Show the amounts and accounts reported on the classified balance sheet at December 31, 2006.
- Prepare the journal entry(ies) to be recorded during 2010. Show the amounts and accounts reported on the classified balance sheet at December 31, 2010.
- After 2010, Extraction Friendly was supposed to clean up and restore the land. Even though the company spent a considerable amount of money on restoration, it was sued by the province of Quebec for not following the contract's requirements. On February 3, 2013, judgment was rendered against Extraction Friendly in the amount of \$3,000,000. The company claims that because the language in the contract was misleading regarding the restoration costs, it plans to appeal the judgment and expects the ruling to be reduced to anywhere between \$1,000,000 and \$2,000,000 with \$1,500,000 being the probable amount. The company has not yet released its 2012 financial statements. Discuss how Extraction Friendly should report this matter on its financial statements for the year ended December 31, 2012.

Solution 13-86

- a) Extraction Friendly needs to record the purchase of the rights along with the ARO. The journal entry to record the purchase of the rights:

| | | |
|-------------------|------------|------------|
| January 1, 2006 | | |
| Extraction rights | 15,000,000 | |
| Cash | | 15,000,000 |

To record the ARO, you need to calculate the PV of the obligation. Because the firm will incur it evenly during 2011, there are a number of alternative calculations.

Solution 13-86 (cont'd)

- 1) A reasonable approximation is to assume that the amount will be spent in the middle of the year and therefore discount it over 5.5 years. The discount factor for (5 years, 8%) = 0.68058. To make it a discount factor for 5.5 years, simply divide by 1.04 = 0.6544. The PV of the ARO = \$2,000,000 x 0.6544 = \$1,308,800. This cost is added to the cost of the underlying asset. Or, with the use of a financial calculator, the obligation equals \$1,309,783.
- 2) An alternative is to first discount the 12 monthly payments and then discount over a 5 year period. Use of a financial calculator yields \$1,303,975.
- 3) Equally acceptable is to simply discount over 5 periods so that the obligation is fully measured by the time clean-up is expected to begin. Usually, periodic cash flows for less than one year are not discounted. Use of a financial calculator yields \$1,361,166.

Assuming alternative 1 is chosen (students can opt for the other alternatives, as long as a present value is calculated), the ARO would be recorded as follows:

| | | |
|-----------------------------|-----------|-----------|
| Extraction rights | 1,308,800 | |
| Asset retirement obligation | | 1,308,800 |

- b) Extraction Friendly needs to depreciate the extraction rights over 5 years and also record accretion (interest) expense on the obligation.

| | | |
|-----------------------------|-----------|----------------------------|
| Depreciation expense | 3,261,760 | ((15,000,000+1,308,800)/5) |
| Accumulated depreciation | | 3,261,760 |
| Accretion expense ** | 104,704 | (1,308,800 x 8%) |
| Asset retirement obligation | | 104,704 |

** Using IFRS, the debit is to Interest Expense

Balance sheet amounts:

| <u>Account</u> | <u>Amount</u> | <u>Classification</u> |
|---|---------------|-----------------------|
| Extraction rights net of accumulated depreciation | 13,047,040 | Long-term assets |
| Asset retirement obligation | 1,413,504 | Long-term liabilities |

Solution 13-86 (cont'd)

c) For the depreciation of the extraction rights the journal entry is the same every year.

| | | |
|--------------------------|-----------|----------------------------|
| Depreciation expense | 3,261,760 | ((15,000,000+1,308,800)/5) |
| Accumulated depreciation | | 3,261,760 |

For the accretion costs first you need to find the carrying value of the obligation as of January 1, 2010 and then to calculate the expense.

The carrying value as of January 1, 2010 is 1,780,608, so the accretion expense is 142,449. (\$1,780,608 x 8%)

| | | |
|-----------------------------|---------|---------|
| Accretion expense | 142,449 | |
| Asset retirement obligation | | 142,449 |

Balance sheet amounts:

| <u>Account</u> | <u>Amount</u> | <u>Classification</u> |
|---|---------------|-----------------------|
| Extraction rights net of accumulated depreciation | 0 | |
| Asset retirement obligation | 1,923,057 | Current liabilities |

Since by the end of 2010 the liability is due within a year, it should be classified as a current liability.

d) This is a somewhat complicated situation. Clearly Extraction Friendly is expecting a contingent loss of anywhere between \$1,500,000 and \$3,000,000. However, a \$3,000,000 judgment has already been rendered against them, while the reduction in the loss is uncertain.

There are two legitimate approaches to this issue. The first approach is to record a loss of \$1,500,000 for 2012 (since this amount is deemed probable) and to provide full disclosure in the notes about the ruling and the expected appeal.

The second approach is that the firm has incurred a contingent loss of \$3,000,000 and expects a contingent gain of \$1,500,000. Because losses are recorded immediately and contingent gains are not, then Extraction Friendly should record a loss of \$3,000,000 for 2012 and provide full disclosure on the possible contingent gain.

Pr. 13-87—Unredeemed coupons.

During 2011 Canadiens Corp. sold 200,000 tickets for hockey games for \$60 each under a new sales promotion program. Each ticket contains one coupon. Any person who presents 2 coupons can receive a ticket to a Montreal Allouettes football game for only \$2. Canadiens Corp. pays \$8.00 per football ticket and at the beginning of the year purchased 80,000 tickets (any tickets not used in 2011 can be used in 2012). The company estimates that 60% of the coupons will be redeemed even though only 50,000 coupons had been processed during 2011.

- (a) What amount should Canadiens Corp report as a liability for unredeemed coupons on December 31, 2011?
- (b) What amount of expense will Canadiens Corp report on its 2011 income statement as a result of the promotional program?
- (c) Prepare any necessary 2011 journal entries related to the promotion program.
- (d) Briefly, but clearly, explain how the accounting treatment will change under the international standards.

Solution 13-87

(a) The number of coupons expected to be processed is $200,000 \times 60\% = 120,000$. In 2011, 50,000 coupons were processed, so 70,000 more are expected to be processed and accordingly 35,000 tickets to be purchased. The additional net cost per ticket is \$6 and therefore the liability for unredeemed coupons at December 31, 2011 should be $35,000 \times 6 = \$210,000$.

(b) Promotion expense = $\frac{120,000}{2} \times 6 = 360,000$

(c)

| | | |
|---|------------|------------|
| Premium Expense | 360,000 | |
| Estimated Liability for Premiums | | 360,000 |
| | | |
| Cash | 12,000,000 | |
| Sales | | 12,000,000 |
| | | |
| Inventory of Premiums (80,000 X \$8) | 640,000 | |
| Cash | | 640,000 |
| | | |
| Estimated Liability for Premiums..... | 150,000 | |
| Cash (50,000/2 X \$2) | 50,000 | |
| Inventory of Premiums (50,000/2 X \$8)..... | | 200,000 |

Solution 13-87 (cont'd)

- (d) Under international standards, this promotion would be considered a multiple deliverables arrangement. Canadiens Corp. is selling two separate products (the hockey tickets and the football tickets), with the selling price of the hockey tickets inflated to encourage the ticket purchasers to also purchase football tickets. Therefore some of the revenue from the sale of each hockey ticket should be deferred and allocated to the delivery of the football tickets. An estimated amount should be deferred to 2012 when the remaining coupons will be redeemed.

Pr. 13-88—Contingencies.

You were hired by Oak Corp. to advise them on how to reflect the events below in their financial statements for the year ended December 31, 2011.

Event 1: The Division A employees union has been negotiating a new contract with Oak Corp. The union is requesting a 5% wage increase retroactive for two years. Oak's management has offered the union a 2% wage increase retroactive for one year. While the negotiations are still ongoing, the company believes that an agreement will soon be reached for a 4% wage increase retroactive for one year, but there is no guarantee that this will be the outcome of the negotiations.

Event 2: The Division B employees union is also negotiating a new contract with Oak Corp. However, these negotiations are proving to be very tough. So far there has not been much progress and management is pessimistic about a quick resolution. The company is concerned that during 2012 the Division B employees will decide to go on strike; in fact, Oak considers it very likely. At this point it is difficult to assess the economic consequences of the potential strike.

Event 3: Towards the end of 2011, a fire destroyed one of Oak's plants. The damage is estimated to be \$8,000,000 and the company's insurance policy has maximum coverage of \$15,000,000 for this. The deductible on the policy is \$300,000. The company is concerned that the insurance premium (\$200,000 in 2011) will double in 2012.

Instructions

For each of the above events, state the accounting treatment you believe is most appropriate. Be specific, and give your rationale.

Solution 13-88

Event 1: The event is more likely than not to happen and the cost can be reasonably estimated. Oak Corp should accrue an additional expense for 2011 based on the most likely outcome of a 4% wage increase retroactive for one year. In the notes to the financial statements, they should provide the range for the potential expense (2-5%, 1-2 years).

Event 2: The event is likely to happen but cannot be reasonably estimated. Therefore note disclosure only would be appropriate.

Pr. 13-88 (cont'd)

Event 3: The \$300,000 deductible payment should be accrued in 2011 as a loss from fire. While the premium is likely to increase and can be reasonably measured, the cost relates to future periods and therefore no expense should be accrued for 2011. Full disclosure of the event and of the expected cost increase for next year is appropriate, unless the amount is immaterial

Alternatives the company could consider:

1. Shop around for a better deal on insurance.
2. Avoid the potential premium increase by choosing to self-insure.

Unauthorized

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CHAPTER 14

LONG-TERM FINANCIAL LIABILITIES

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|---|
| a | 1. | Liability identification. |
| b | 2. | Bond vocabulary. |
| b | 3. | Bond vocabulary. |
| c | 4. | Bond vocabulary. |
| d | 5. | Rate of interest earned by bondholders. |
| b | 6. | Bond premium and interest rates. |
| a | 7. | Interest and discount amortization. |
| d | 8. | Effective interest amortization method. |
| d | 9. | Impact of effective interest method. |
| c | 10. | Bonds issued between interest dates. |
| d | 11. | Bonds issued between interest dates. |
| b | 12. | Valuation of bonds. |
| d | 13. | Bond face value. |
| c | 14. | Callable bonds. |
| b | 15. | Notes with zero interest or non-monetary consideration. |
| c | 16. | Fair value option. |
| d | 17. | Early extinguishment of debt. |
| a | 18. | Debt refunding. |
| b | 19. | Note issued for property, goods, or services. |
| c | 20. | Modification of terms in troubled debt restructuring. |
| d | 21. | Gain/loss on troubled debt restructuring. |
| b | 22. | Gain/loss on troubled debt restructuring. |
| c | 23. | Creditor's calculations for modification of terms. |
| a | 24. | In-substance defeasance. |
| d | 25. | Off balance sheet financing. |
| b | 26. | Long-term debt disclosures. |
| c | 27. | Times interest earned ratio. |
| a. | 28. | Debt to total assets ratio. |
| d | 29. | Times interest earned ratio. |
| b | 30. | Debt to total assets ratio. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|---|
| a | 31. | Calculate the present value of bond principal. |
| b | 32. | Calculate the present value of bond interest. |
| a | 33. | Calculate the issue price of bonds. |
| b | 34. | Interest expense using effective interest method. |
| c | 35. | Interest expense using effective interest method. |
| b | 36. | Calculate gain on retirement of bonds. |
| a | 37. | Calculate gain on retirement of bonds. |
| c | 38. | Calculate loss on retirement of bonds. |
| b | 39. | Bond retirement with call premium. |
| b | 40. | Calculate loss on retirement of bonds. |
| a | 41. | Interest on noninterest-bearing note. |
| c | 42. | Interest on instalment note payable. |
| c | 43. | Calculate balance of note payable. |
| d | 44. | Calculate times interest earned ratio. |
| b | 45. | Transfer of equipment in debt settlement. |
| d | 46. | Recognizing gain on debt restructure. |
| b | 47. | Interest and troubled debt restructuring. |
| c | 48. | Calculate debt to total assets ratio. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|--|
| c | 49. | Calculate proceeds from bond issue. |
| b | 50. | Calculate balance in bonds payable account. |
| c | 51. | Calculate balance in bonds payable account. |
| b | 52. | Calculate bond interest expense. |
| a | 53. | Calculate loss on retirement of bonds. |
| d | 54. | Calculate loss on retirement of bonds. |
| b | 55. | Calculate gain on retirement of bonds. |
| c | 56. | Calculate carrying value of bonds to be retired. |
| d | 57. | Classification of gain from troubled debt restructuring. |

EXERCISES

| Item | Description |
|--------|--|
| E14-58 | Terms related to long-term debt. |
| E14-59 | Underwriting for bond issues. |
| E14-60 | Amortization of discount or premium. |
| E14-61 | Bond issue price and premium amortization. |
| E14-62 | Entries for bonds payable. |
| E14-63 | Sale and subsequent buyback of bonds. |
| E14-64 | Note issued for cash and other rights. |
| E14-65 | Note issued for non-cash consideration. |
| E14-66 | Retirement of bonds. |

| | |
|--------|---|
| E14-67 | Early extinguishment of debt. |
| E14-68 | Accounting for a troubled debt settlement. |
| E14-69 | Accounting procedures for bond redemptions. |
| E14-70 | Accounting for troubled debt restructuring. |
| E14-71 | Accounting for troubled debt. |

PROBLEMS

| Item | Description |
|-------------|--|
| P14-72 | Bond interest and discount amortization. |
| P14-73 | Bond interest and discount amortization. |
| P14-74 | Entries for bonds payable. |
| P14-75 | Entries for bonds payable. |
| P14-76 | Accounting for a troubled debt settlement. |
| P14-77 | Accounting for bond issuance and retirement. |
| P14-78 | Bond accounting, ratios, debt covenants. |

MULTIPLE CHOICE—Conceptual

1. Which of the following is NOT generally classified as a long-term liability?
 - a. Stock dividends distributable.
 - b. Pension liabilities.
 - c. Mortgages payable.
 - d. Lease liabilities.

2. A contract representing the covenants and other terms of the agreement between the issuer of bonds and the lender is known as a
 - a. bond debenture.
 - b. bond indenture.
 - c. registered bond.
 - d. long term note payable.

3. The term used for bonds that are backed by collateral is
 - a. convertible bonds.
 - b. debenture bonds.
 - c. secured bonds.
 - d. callable bonds.

4. Bonds frequently used by schools and municipalities that mature in instalments are called
 - a. convertible bonds.
 - b. revenue bonds.
 - c. serial bonds.
 - d. callable bonds.

5. The rate of interest actually earned by bondholders is called the
 - a. stated rate.
 - b. coupon rate.
 - c. dividend rate.
 - d. effective yield or market rate.

6. Moss Corp issued ten year bonds with a maturity value of \$400,000. If the bonds were issued at a premium, this indicates that
 - a. the market rate was higher than the stated rate.
 - b. the stated rate was higher than the market rate.
 - c. the market and stated rates were the same.
 - d. no relationship exists between the two rates.

7. If bonds are initially sold at a discount and the straight-line method of amortization is used, interest expense in the earlier years will be
 - a. higher than it would have been had the effective interest method of amortization been used.
 - b. less than it would have been had the effective interest method of amortization been used.
 - c. the same as it would have been had the effective interest method of amortization been used.
 - d. less than the stated rate of interest.
8. Using the effective interest method of bond discount or premium amortization, the periodic interest expense is equal to the
 - a. stated rate of interest multiplied by the face value of the bonds.
 - b. market rate of interest multiplied by the face value of the bonds.
 - c. stated rate multiplied by the beginning-of-period carrying value of the bonds.
 - d. market rate multiplied by the beginning-of-period carrying value of the bonds.
9. When the effective interest method is used to amortize bond premium or discount, the periodic amortization will
 - a. increase if the bonds were issued at a discount.
 - b. decrease if the bonds were issued at a premium.
 - c. increase if the bonds were issued at a premium.
 - d. increase if the bonds were issued at either a discount or a premium.
10. If bonds are issued between interest dates, the entry on the books of the issuing corporation could include a
 - a. debit to Interest Payable.
 - b. credit to Interest Receivable.
 - c. credit to Interest Expense.
 - d. credit to Unearned Interest.
11. When the interest payment dates of a bond are May 1 and November 1, and a bond issue is sold on June 1, the amount of cash received by the issuer will be
 - a. decreased by accrued interest from June 1 to November 1.
 - b. decreased by accrued interest from May 1 to June 1.
 - c. increased by accrued interest from June 1 to November 1.
 - d. increased by accrued interest from May 1 to June 1.
12. How should a long term bond initially be valued?
 - a. At the future value of the future cash flows.
 - b. At the present value of the future cash flows.
 - c. At the present value of the interest to be paid.
 - d. At the maturity value of the bond.

13. A bond's face value is also called
 - a. the par value or the present value.
 - b. the principal amount or the present value.
 - c. the future value or the maturity value.
 - d. the par value or the maturity value.

14. A ten-year bond was issued in 2010 at a discount with a call provision to retire the bonds. When the bond issuer exercised the call provision on an interest date in 2012, the carrying value of the bond was less than the call price. The amount of bond liability removed from the accounts in 2012 would be the
 - a. call price.
 - b. maturity value.
 - c. carrying value.
 - d. face amount plus unamortized discount.

15. If a long-term note is issued with zero interest or for non-monetary consideration,
 - a. the debtor must first try to value the non-monetary asset(s) involved in the transaction.
 - b. a reasonable interest rate must be imputed.
 - c. the debtor always tries to create a gain with such a transaction.
 - d. the note is a non-monetary liability.

16. When valuing financial instruments at fair value (the fair value option),
 - a. Private entity GAAP allows this option only for certain financial instruments.
 - b. IFRS allows this for all financial instruments.
 - c. IFRS requires that this option be used only where fair value results in more relevant information.
 - d. this is only allowed for long term bonds.

17. An early extinguishment of bonds payable, which were originally issued at a premium, is made by purchasing the bonds between interest dates. At the time of reacquisition
 - a. any deferred bond issue costs must be amortized up to the purchase date.
 - b. the premium must be amortized up to the purchase date.
 - c. interest must be accrued from the last interest date to the purchase date.
 - d. all of these statements are correct.

18. If a debt refunding is viewed as a modification or renegotiation, then
 - a. a new effective interest rate is calculated.
 - b. a gain or loss is recorded.
 - c. there is no change in the accounting for the debt.
 - d. the old debt is derecognized.

19. When a note payable is issued for property, goods, or services, the present value of the note is measured by
 - a. the present value of the property, goods or services.
 - b. the fair value of the property, goods, or services.
 - c. the fair value of the debt instrument.
 - d. any of the above.

20. In a troubled debt restructuring in which the debt is continued with modified terms and the carrying amount of the debt is less than the total future cash flows,
- an extraordinary gain should be recognized by the debtor.
 - a gain should be recognized by the debtor.
 - a new effective interest rate must be calculated.
 - no interest expense or revenue should be recognized in the future.
21. A troubled debt restructuring will generally result in a
- loss by the debtor and a gain by the creditor.
 - loss by both the debtor and the creditor.
 - gain by both the debtor and the creditor.
 - gain by the debtor and a loss by the creditor.
22. In a troubled debt restructuring in which the debt is settled by a transfer of assets with a fair market value less the carrying amount of the debt, the debtor would recognize
- no gain or loss on the settlement.
 - a gain on the settlement.
 - a loss on the settlement.
 - none of the above.
23. In a troubled debt restructuring in which the debt is continued with modified terms and the carrying amount of the debt is less than the total future cash flows, the creditor should
- calculate a new effective interest rate.
 - not recognize a loss.
 - calculate its loss using the historical effective rate of the loan.
 - calculate its loss using the current effective rate of the loan.
24. When the debtor sets aside money in a trust such that the investment and any return will be sufficient to pay the principal and the interest to the creditor, but the creditor does not release the company from the primary obligation to settle the debt, this type of arrangement is known as
- in-substance defeasance.
 - in-substance refunding.
 - substantive repayment.
 - legal defeasance.
25. Which of the following arrangements may represent a possible example of “off-balance-sheet financing”?
- Non-consolidated subsidiaries.
 - Variable interest entities.
 - Operating leases.
 - All of the above.
26. Note disclosures for long-term debt generally include all of the following except
- assets pledged as security.
 - names of specific creditors.
 - restrictions imposed by creditors.
 - call provisions and conversion privileges.

27. The times interest earned ratio is calculated by dividing
- net income by interest expense.
 - income before taxes by interest expense.
 - income before income taxes and interest expense by interest expense.
 - net income and interest expense by interest expense.
28. The debt to total assets ratio is calculated by dividing
- total liabilities by total assets.
 - long-term liabilities by total assets.
 - current liabilities by total assets.
 - total assets by total liabilities.
29. The times interest earned ratio measures
- the amount of interest expense related to long term debt.
 - the percentage of total assets financed by creditors.
 - the profitability of an enterprise.
 - an enterprise's ability to meet interest payments as they come due.
30. The debt to total assets earned ratio measures
- the amount of debt related to interest expense.
 - the percentage of total assets financed by creditors.
 - the likelihood an enterprise will default on its obligations.
 - the profitability of an enterprise.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | a | 6. | b | 11. | d | 16. | c | 21. | d | 26. | b |
| 2. | b | 7. | a | 12. | b | 17. | d | 22. | b | 27. | c |
| 3. | b | 8. | d | 13. | d | 18. | a | 23. | c | 28. | a |
| 4. | c | 9. | d | 14. | c | 19. | b | 24. | a | 29. | d |
| 5. | d | 10. | c | 15. | b | 20. | c | 25. | d | 30. | b |

MULTIPLE CHOICE—Computational

Use the following information for questions 31 through 33:

On January 1, 2011, Schweb Co. issued eight-year 6% bonds with a face value of \$500,000, with interest payable semi-annually on June 30 and December 31. The bonds were sold to yield 8%. Table values are:

| | |
|---|--------|
| Present value of 1 for 8 periods at 6% | .627 |
| Present value of 1 for 8 periods at 8% | .540 |
| Present value of 1 for 16 periods at 3% | .623 |
| Present value of 1 for 16 periods at 4% | .534 |
| Present value of annuity for 8 periods at 6% | 6.210 |
| Present value of annuity for 8 periods at 8% | 5.747 |
| Present value of annuity for 16 periods at 3% | 12.561 |
| Present value of annuity for 16 periods at 4% | 11.652 |

31. The present value of the principal is
- \$267,000.
 - \$270,000.
 - \$311,500.
 - \$313,500.
32. The present value of the interest is
- \$172,410.
 - \$174,780.
 - \$186,300.
 - \$188,415.
33. The issue price of the bonds is
- \$441,780.
 - \$442,410.
 - \$444,780.
 - \$499,800.
34. On January 1, 2011, Hartman Ltd sold five year, 12% bonds with a face value of \$500,000. Interest will be paid semi-annually on June 30 and December 31. The bonds were sold for \$538,500 to yield 10%. Using the effective interest method of amortization of bond discount or premium, interest expense for 2011 is
- \$50,000.
 - \$53,696.
 - \$53,850.
 - \$60,000.

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35. On January 2, 2011, Portland Ltd sold five year, 8% bonds with a face value of \$900,000. Interest will be paid semi-annually on June 30 and December 31. The bonds were sold for \$830,400 to yield 10%. Using the effective interest method of amortization of bond discount or premium, interest expense for 2011 is
- \$72,000.
 - \$83,040.
 - \$83,316.
 - \$90,000.
36. The December 31, 2011, balance sheet of Alberta Corporation includes the following
- 9% bonds payable due December 31, 2020 \$718,900

The bonds have a face value of \$700,000, and were issued on December 31, 2010, at 103, with interest payable on July 1 and December 31 of each year. Alberta uses straight-line amortization to amortize bond premium or discount. On March 1, 2012, Alberta retired \$280,000 of these bonds at 98 plus accrued interest. Ignoring income taxes, what should Alberta record as a gain on retirement of these bonds?

- \$ 7,560.
 - \$13,020.
 - \$13,160.
 - \$14,000.
37. On January 1, 2011, Fernie Corp issued \$900,000 (face value), 10%, ten-year bonds at 103. The bonds are callable at 105. Fernie has recorded amortization of the bond premium by the straight-line method (which was not materially different from the effective interest method).
On December 31, 2017, Fernie repurchased \$200,000 of the bonds in the open market at 96. Bond interest expense and premium amortization have been recorded for 2017. Ignoring income taxes, what is the loss or gain arising from this reacquisition?
- A gain of \$9,800.
 - A loss of \$9,800.
 - A gain of \$12,200.
 - A loss of \$12,200.
38. At December 31, 2011, the 10% bonds payable of Red Deer Inc had a carrying value of \$380,000. The bonds, which had a face value of \$400,000, were issued at a discount to yield 12%. The amortization of the bond discount had been recorded using the effective interest method. Interest was being paid on January 1 and July 1 of each year.
The July 1, 2012 interest payment and discount amortization had been correctly recorded. On July 2, 2012, Red Deer retired the bonds at 102. Ignoring income taxes, what is the loss that should be recorded on the early retirement of the bonds?
- \$ 8,000.
 - \$22,400.
 - \$25,200.
 - \$28,000.

39. A corporation called an outstanding bond obligation four years before maturity. At that time there was an unamortized discount of \$200,000. To extinguish this debt, the company had to pay a call premium of \$75,000. Ignoring income tax considerations, how should these amounts be treated for accounting purposes?
- Amortize \$275,000 over four years.
 - Record a \$275,000 loss in the year of extinguishment.
 - Record a \$75,000 loss in the year of extinguishment and amortize \$200,000 over four years.
 - Either amortize \$275,000 over four years or record a \$275,000 loss immediately, whichever management selects.
40. At December 31, 2011, the 12% bonds payable of Kingston Corp. had a carrying value of \$312,000. The bonds, which had a face value of \$300,000, were issued at a premium to yield 10%. Kingston uses the effective interest method of amortization of bond premium. Interest is paid on June 30 and December 31. On June 30, 2012, several years before their maturity, Kingston retired the bonds at 104 plus accrued interest. The loss on retirement, ignoring taxes, is
- \$ 0.
 - \$ 2,400.
 - \$ 3,720.
 - \$12,000.
41. On January 1, 2011, Susan Smithers lent \$30,052 to Ben Brandon. A zero-interest-bearing note (face amount, \$40,000) was exchanged solely for cash; no other rights or privileges were exchanged. The note is to be repaid on December 31, 2013. The market rate of interest for a loan of this type is 10%. To the nearest dollar, and using the effective interest method, how much interest revenue should Ms. Smithers recognize in 2011?
- \$ 3,005.
 - \$ 4,000.
 - \$ 9,015.
 - \$12,000.
42. On January 1, 2011, Wall Company sold property to Mart Company, for which Wall had originally paid \$570,000. There was no established exchange price for this property. Mart gave Wall a \$900,000, zero-interest-bearing note, payable in three equal annual instalments of \$300,000, with the first payment due December 31, 2011. The note also has no ready market. The market rate of interest for a note of this type is 10%. The present value of a \$900,000 note payable in three equal annual instalments of \$300,000 at 10% is \$746,100. To the nearest dollar, and using the effective interest method, how much interest revenue should Wall Company recognize in 2011?
- \$ 0.
 - \$30,000.
 - \$74,610.
 - \$90,000.

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43. On January 1, 2011, Queen Ltd sold property to King Company. There was no established exchange price for the property, and King gave Queen a \$3,000,000, zero-interest-bearing note payable in five equal annual instalments of \$600,000, with the first payment due December 31, 2011. The market rate of interest for a note of this type is 9%. The present value of the note at 9% was \$2,163,000 at January 1, 2011. What should be the balance of the Note Payable to Queen Ltd account on King's December 31, 2011 adjusted trial balance, assuming that the effective interest method is used?
- \$1,968,330.
 - \$2,163,000.
 - \$2,357,600.
 - \$3,000,000.

44. Continental Company's 2012 financial statements contain the following selected data:

| | |
|--------------------|----------|
| Income tax expense | \$40,000 |
| Interest expense | 10,000 |
| Net income | 80,000 |

Continental's times interest earned for 2012 is

- 8 times.
 - 11 times.
 - 12 times.
 - 13 times.
- Use the following information for questions 45 through 47:
- On December 31, 2010, Diaz Corp. is in financial difficulty and cannot pay a \$900,000 note with \$90,000 accrued interest payable to Cameron Ltd, which is now due. Cameron agrees to accept from Diaz equipment that has a fair value of \$435,000, an original cost of \$720,000, and accumulated depreciation of \$345,000. Cameron also forgives the accrued interest, extends the maturity date to December 31, 2013, reduces the face amount of the note to \$375,000, and reduces the interest rate to 6%, with interest payable at the end of each year.
45. Diaz should recognize a gain or loss on the transfer of the equipment of
- \$0.
 - \$60,000 gain.
 - \$90,000 gain.
 - \$285,000 loss.
46. Diaz should recognize a gain on the partial settlement and restructure of the debt of
- \$0.
 - \$22,500.
 - \$112,500.
 - \$180,000.
47. Diaz should record interest expense for 2013 of
- \$0.
 - \$22,500.
 - \$45,000.
 - \$67,500.

48. Granger Ltd reported the following information on their most recent balance sheet:
- | | |
|---------------------|-----------|
| Current assets | \$200,000 |
| Total assets | 797,000 |
| Current liabilities | 160,000 |
| Total equity | 350,000 |

To the nearest percent, what is Granger's debt to total assets?

- a. 20%.
- b. 44%.
- c. 56%.
- d. 80%.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 31. | a | 34. | b | 37. | a | 40. | b | 43. | c | 46. | d |
| 32. | b | 35. | c | 38. | c | 41. | a | 44. | d | 47. | b |
| 33. | a | 36. | b | 39. | b | 42. | c | 45. | b | 48. | c |

MULTIPLE CHOICE—CPA Adapted

49. On July 1, 2011, Petunia Corp. issued \$300,000, 8% bonds at 99 plus accrued interest. The bonds are dated April 1, 2011 and mature on April 1, 2021. Interest is payable semi-annually on April 1 and October 1. How much did Petunia receive from the bond issuance?
- \$297,000
 - \$300,000
 - \$303,000
 - \$309,000
50. On January 1, 2011, Violet Ltd. issued \$4,000,000, 10% bonds, which mature on January 1, 2021. The bonds were issued for \$4,540,000 to yield 8%. Violet uses the effective interest method of amortizing bond premium. Interest is payable annually on December 31. At December 31, 2011, the adjusted balance in the Bonds Payable account should be
- \$4,540,000.
 - \$4,503,200.
 - \$4,486,000.
 - \$4,000,000.
51. On July 1, 2011, Iris Inc. issued \$1,000,000, 9% bonds, which mature on July 1, 2021. The bonds were issued for \$939,000 to yield 10%. Iris uses the effective interest method of amortizing bond discount. Interest is payable annually on June 30. At June 30, 2013, the adjusted balance in the Bonds Payable account should be
- \$1,000,000.
 - \$ 987,800.
 - \$ 947,190.
 - \$ 942,900.
52. On January 1, 2011, Moon Corp. sold \$500,000, 10% bonds for \$442,648 to yield 12%. Interest is payable semi-annually on January 1 and July 1. What amount should Moon report as interest expense for the six months ended June 30, 2011?
- \$30,000.
 - \$26,559.
 - \$25,000.
 - \$22,133.
53. On January 1, 2011, McMouse Inc. redeemed its 15-year, \$900,000 par value bonds at 102. They were originally issued on January 1, 1999 at 98 with a maturity date of January 1, 2014. The bond issue costs relating to this transaction were \$54,000. McMouse amortizes discounts, premiums, and bond issue costs using the straight-line method. Ignoring income taxes, what amount of loss should McMouse recognize on the redemption of these bonds?
- \$32,400.
 - \$21,600.
 - \$18,000.
 - \$ 0.

54. On its December 31, 2011 balance sheet, Wong Ltd. reported bonds payable of \$2,000,000 and related unamortized bond issue costs of \$80,000. The bonds had been issued at par. On January 2, 2012, Wong retired one half of the outstanding bonds at par plus a call premium of \$35,000. Ignoring income taxes, what amount should Wong report on its 2012 income statement as loss on extinguishment of debt?
- \$ 0.
 - \$35,000.
 - \$40,000.
 - \$75,000.
55. On January 1, 2010, Jackson Corp. issued \$2,000,000, 10% bonds for \$2,080,000. These bonds were to mature on January 1, 2020 but were callable at 101 any time after December 31, 2010. Interest was payable semi-annually on July 1 and January 1. On July 1, 2015, Jackson called all of the bonds and retired them. Bond premium was amortized on a straight-line basis. Ignoring income taxes, Jackson's gain or loss in 2015 on this early extinguishment of debt was
- \$16,000 loss.
 - \$16,000 gain.
 - \$20,000 loss.
 - \$24,000 gain.
56. On July 1, 2011, Gordon Corp. had outstanding 8%, \$1,000,000, 15-year bonds maturing on June 30, 2021. Interest is payable semi-annually on June 30 and December 31. The carrying value of the bond at June 30, 2011 was \$965,000. As well, Gordon had deferred bond issue costs of \$10,000. At this time, Gordon purchased all the bonds at 94 and retired them. Assume all appropriate entries had been prepared and posted at June 30. What carrying value should be used to calculate any gain or loss on this early extinguishment of debt?
- \$990,000.
 - \$965,000.
 - \$955,000.
 - \$940,000.
57. Pineapple owes Dole a \$600,000, 12%, three-year note dated December 31, 2009. Pineapple has been experiencing financial difficulties, and still owes accrued interest of \$72,000 on this note at December 31, 2011. Under a troubled debt restructuring, on December 31, 2011, Dole agrees to settle the note plus the accrued interest for land that Pineapple owns, which has a fair value of \$540,000. Pineapple's original cost of the land is \$435,000. Ignoring income taxes, on its 2011 income statement, what should Pineapple report as a result of the troubled debt restructuring?
- | | Gain on
<u>Disposition of Land</u> | Gain on
<u>Restructuring of Debt</u> |
|----|---------------------------------------|---|
| a. | \$237,000 | \$0 |
| b. | \$165,000 | \$0 |
| c. | \$105,000 | \$60,000 |
| d. | \$105,000 | \$132,000 |

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 49. | c | 51. | c | 53. | a | 55. | b | 57. | d |
| 50. | b | 52. | b | 54. | d | 56. | c | | |

Answers

DERIVATIONS—Computational

| No. | Answer | Derivation | | | | | | | | | | | | | | | | | | | | |
|--------------------------|-----------------------------------|--|------------------|------------------------|---|----------|--------------------------|---------------------------------|--|--|-----------|-----------------------------------|--|--|-----------------|------------------------|---|-----------------|-------------------------|--|--|-----------------|
| 31. | a | $\$500,000 \times .534 = \$267,000.$ | | | | | | | | | | | | | | | | | | | | |
| 32. | b | $(\$500,000 \times .03) \times 11.652 = \$174,780.$ | | | | | | | | | | | | | | | | | | | | |
| 33. | a | $\$267,000 + \$174,780 = \$441,780.$ | | | | | | | | | | | | | | | | | | | | |
| 34. | b | <table border="0" style="width: 100%;"> <tr> <td style="width: 70%;">Interest June 30</td> <td style="width: 10%;">$\\$538,500 \times .05$</td> <td style="width: 10%; text-align: right;">=</td> <td style="width: 10%; text-align: right;">\$26,925</td> </tr> <tr> <td>Amortization of premium</td> <td>$\\$30,000 - \\$26,925 = \\$3,075$</td> <td></td> <td></td> </tr> <tr> <td>CV is now</td> <td>$\\$538,500 - \\$3,075 = \\$535,425$</td> <td></td> <td></td> </tr> <tr> <td>Interest Dec 31</td> <td>$\\$535,425 \times .05$</td> <td style="text-align: right;">=</td> <td style="text-align: right;"><u>\$26,771</u></td> </tr> <tr> <td>Total interest for 2011</td> <td></td> <td></td> <td style="text-align: right;"><u>\$53,696</u></td> </tr> </table> | Interest June 30 | $\$538,500 \times .05$ | = | \$26,925 | Amortization of premium | $\$30,000 - \$26,925 = \$3,075$ | | | CV is now | $\$538,500 - \$3,075 = \$535,425$ | | | Interest Dec 31 | $\$535,425 \times .05$ | = | <u>\$26,771</u> | Total interest for 2011 | | | <u>\$53,696</u> |
| Interest June 30 | $\$538,500 \times .05$ | = | \$26,925 | | | | | | | | | | | | | | | | | | | |
| Amortization of premium | $\$30,000 - \$26,925 = \$3,075$ | | | | | | | | | | | | | | | | | | | | | |
| CV is now | $\$538,500 - \$3,075 = \$535,425$ | | | | | | | | | | | | | | | | | | | | | |
| Interest Dec 31 | $\$535,425 \times .05$ | = | <u>\$26,771</u> | | | | | | | | | | | | | | | | | | | |
| Total interest for 2011 | | | <u>\$53,696</u> | | | | | | | | | | | | | | | | | | | |
| 35. | c | <table border="0" style="width: 100%;"> <tr> <td style="width: 70%;">Interest June 30</td> <td style="width: 10%;">$\\$830,400 \times .05$</td> <td style="width: 10%; text-align: right;">=</td> <td style="width: 10%; text-align: right;">\$41,520</td> </tr> <tr> <td>Amortization of discount</td> <td>$\\$41,520 - \\$36,000 = \\$5,520$</td> <td></td> <td></td> </tr> <tr> <td>CV is now</td> <td>$\\$830,400 + \\$5,520 = \\$835,920$</td> <td></td> <td></td> </tr> <tr> <td>Interest Dec 31</td> <td>$\\$835,920 \times .05$</td> <td style="text-align: right;">=</td> <td style="text-align: right;"><u>41,796</u></td> </tr> <tr> <td>Total interest for 2011</td> <td></td> <td></td> <td style="text-align: right;"><u>\$83,316</u></td> </tr> </table> | Interest June 30 | $\$830,400 \times .05$ | = | \$41,520 | Amortization of discount | $\$41,520 - \$36,000 = \$5,520$ | | | CV is now | $\$830,400 + \$5,520 = \$835,920$ | | | Interest Dec 31 | $\$835,920 \times .05$ | = | <u>41,796</u> | Total interest for 2011 | | | <u>\$83,316</u> |
| Interest June 30 | $\$830,400 \times .05$ | = | \$41,520 | | | | | | | | | | | | | | | | | | | |
| Amortization of discount | $\$41,520 - \$36,000 = \$5,520$ | | | | | | | | | | | | | | | | | | | | | |
| CV is now | $\$830,400 + \$5,520 = \$835,920$ | | | | | | | | | | | | | | | | | | | | | |
| Interest Dec 31 | $\$835,920 \times .05$ | = | <u>41,796</u> | | | | | | | | | | | | | | | | | | | |
| Total interest for 2011 | | | <u>\$83,316</u> | | | | | | | | | | | | | | | | | | | |
| 36. | b | $\left[\$718,900 - \left(\frac{\$18,900}{18} \times \frac{2}{6} \right) \right] \times .4 = \$287,420 \text{ (CV of retired bonds)}$ $\$287,420 - (\$280,000 \times .98) = \$13,020.$ | | | | | | | | | | | | | | | | | | | | |
| 37. | a | $\left[\$900,000 \times 1.03 - \left(\frac{\$27,000}{10} \times 7 \right) \right] \times 2/9 = \$201,800 \text{ (CV of retired bonds)}$ $\$201,800 - (\$200,000 \times .96) = \$9,800.$ | | | | | | | | | | | | | | | | | | | | |
| 38. | c | $(\$380,000 \times 1.06) - (\$400,000 \times .05) = \$382,800 \text{ (CV of bonds)}$ $\$382,800 - (\$400,000 \times 1.02) = \$25,200.$ | | | | | | | | | | | | | | | | | | | | |
| 39. | b | $\$200,000 + \$75,000 = \$275,000.$ | | | | | | | | | | | | | | | | | | | | |
| 40. | b | $(\$312,000 - [(\$300,000 \times .06) - (\$312,000 \times .05)]) = \$309,600 \text{ (CV of bonds)}$ $(\$300,000 \times 1.04) - \$309,600 = \$2,400.$ | | | | | | | | | | | | | | | | | | | | |
| 41. | a | $\$30,052 \times .10 = \$3,005.$ | | | | | | | | | | | | | | | | | | | | |
| 42. | c | $\$746,100 \times .10 = \$74,610.$ | | | | | | | | | | | | | | | | | | | | |
| 43. | c | $\$2,163,000 \times 1.09 = \$2,357,600.$ | | | | | | | | | | | | | | | | | | | | |

44. d $\frac{\$80,000 + \$40,000 + \$10,000}{\$10,000} = 13 \text{ times.}$
45. b $\$435,000 - (\$720,000 - \$345,000) = \$60,000.$
46. d $(\$900,000 + \$90,000) - (\$435,000 + \$375,000) = \$180,000.$
47. b $\$375,000 \times .06 = \$22,500.$
48. c Total liabilities = $\$797,000 - \$350,000 = \$447,000$
 Debt to total assets = $\$447,000 / \$797,000 \times 100 = 56\%$

DERIVATIONS—CPA Adapted

- | No. | Answer | Derivation |
|-----|--------|--|
| 49. | c | $(\$300,000 \times .99) + (\$300,000 \times .08 \times 3/12) = \$303,000.$ |
| 50. | b | Amortization of premium $\$400,000 - (\$4,540,000 \times .08) = \$36,800$ CV is $\$4,540,000 - \$36,800 = \$4,503,200.$ |
| 51. | c | 2011-2012: CV is $\$939,000 + [(\$939,000 \times .1) - \$90,000] = \$942,900.$ 2012-2013: CV is $\$942,900 + [(\$942,900 \times .1) - \$90,000] = \$947,190.$ |
| 52. | b | $\$442,648 \times .06 = \$26,559.$ |
| 53. | a | $(\$900,000 \times 1.02) - \left[\$828,000 + \left(\frac{\$72,000}{15} \times 12 \right) \right] = \$32,400.$ |
| 54. | d | $(\$1,000,000 + \$35,000) - [(\$2,000,000 - \$80,000) \times \frac{1}{2}] = \$75,000.$ |
| 55. | b | $\left[\$2,080,000 - \left(\frac{\$80,000}{20} \times 11 \right) \right] - (\$2,000,000 \times 1.01) = \$16,000.$ |
| 56. | c | $\$965,000 - \$10,000 = \$955,000.$ |
| 57. | d | $\$540,000 - \$435,000 = \$105,000$ $(\$600,000 + \$72,000) - \$540,000 = \$132,000.$ |

EXERCISES

Ex. 14-58—Terms related to long-term debt.

Place the letter of the best matching phrase before each term.

- | | |
|------------------------------|--------------------------------------|
| _____ 1. Bond indenture | _____ 6. Times interest earned ratio |
| _____ 2. Bearer bonds | _____ 7. Perpetual bonds |
| _____ 3. Bonds issued at par | _____ 8. Premium on bonds |
| _____ 4. Carrying value | _____ 9. Callable bonds |
| _____ 5. Nominal rate | _____ 10. Market rate |

- a. Bonds having unusually long terms.
- b. Rate set by party issuing the bonds which appears on the bond instrument.
- c. The stated interest rate is the same as the effective interest at date of issuance.
- d. Rate of interest actually earned by the bondholders.
- e. Results when bonds are sold below par.
- f. Results when bonds are sold above par.
- g. Bonds not recorded in the holder's name; can be easily transferred from one party to another.
- h. Give the issuer the right to call in and retire bonds before maturity.
- i. Maturity value of bonds less any discount or plus any premium at any given date.
- j. Ratio of current assets to current liabilities.
- k. The bond contract or agreement.
- l. Indicates the company's ability to meet interest payments as they come due.
- m. Ratio of debt to equity.

Solution 14-58

- | | | | | |
|------|------|------|------|-------|
| 1. k | 3. c | 5. b | 7. a | 9. h |
| 2. g | 4. i | 6. l | 8. f | 10. d |

Ex. 14-59—Underwriting for bond issues.

Explain the difference between firm underwriting and best efforts underwriting.

Solution 14-59

With firm underwriting, an investment bank or brokerage will underwrite a bond issue by guaranteeing a specified amount to the bond issuer. Thus the broker assumes the risk of selling the bonds for whatever they can get.

With best efforts underwriting, on the other hand, the agent (broker) will sell the bond issue for a commission that will be deducted from the sale proceeds.

Ex. 14-60—Amortization of discount or premium.

Sedge Industries Ltd. issued \$2,000,000, 8% bonds on May 1, 2011 and received cash proceeds of \$1,774,526. The bonds pay interest semi-annually on May 1 and November 1. The maturity date on these bonds is November 1, 2023. Sedge uses the effective interest method of amortizing bond discounts and premiums. The bonds were sold to yield an effective interest rate of 10%.

Instructions

Calculate the total dollar amount of discount or premium amortization during the first year (May 1, 2011 through April 30, 2012) these bonds were outstanding. Show calculations and round all values to the nearest dollar.

Solution 14-60

| <u>Date</u> | <u>Interest Expense</u> | <u>Cash Interest</u> | <u>Discount Amortized</u> | <u>Carrying Value of Bonds</u> |
|-------------|-------------------------|----------------------|---------------------------|--------------------------------|
| May 1/11 | | | | \$1,774,526 |
| Nov 1/11 | \$88,726 | \$80,000 | \$ 8,726 | 1,783,252 |
| May 1/12 | 89,163 | 80,000 | <u>9,163</u> | 1,792,415 |
| | | Total | <u>\$17,889</u> | |

Ex. 14-61—Bond issue price and premium amortization.

On January 1, 2011, Moffat Corp. issued ten-year, 10% bonds with a face value of \$500,000, with interest payable semi-annually on June 30 and December 31. The bonds were sold to yield 12%. Table values are:

| | |
|--|--------|
| Present value of 1 for 10 periods at 10% | .386 |
| Present value of 1 for 10 periods at 12% | .322 |
| Present value of 1 for 20 periods at 5% | .377 |
| Present value of 1 for 20 periods at 6% | .312 |
| Present value of annuity for 10 periods at 10% | 6.145 |
| Present value of annuity for 10 periods at 12% | 5.650 |
| Present value of annuity for 20 periods at 5% | 12.462 |
| Present value of annuity for 20 periods at 6% | 11.470 |

Instructions

- (a) Calculate the issue price of the bonds.
- (b) Independent of your solution to part (a), assume that the issue price was \$442,000. Prepare the amortization table for 2011, assuming that amortization is recorded on interest payment dates.

Solution 14-61

(a) $.312 \times \$500,000 = \$156,000$
 $11.470 \times \$25,000 = \underline{286,750}$
\$442,750

| (b) <u>Date</u> | <u>Cash</u> | <u>Expense</u> | <u>Amortization</u> | <u>Carrying Amount</u> |
|-----------------|-------------|----------------|---------------------|------------------------|
| Jan 1/11 | | | | \$442,000 |
| June 30/11 | \$25,000 | \$26,520 | \$1,520 | 443,520 |
| Dec 31/11 | 25,000 | 26,611 | 1,611 | 445,131 |

Ex. 14-62—Entries for Bonds Payable.

Instructions

Prepare journal entries to record the following transactions related to Euro Ltd's long-term bonds.

- (a) On April 1, 2010, Euro issued \$600,000, 9% bonds (dated January 1, 2010) for \$645,442 including accrued interest. Interest is payable annually on January 1, and the bonds mature on January 1, 2020.
- (b) On July 1, 2012, Euro retired \$180,000 of the bonds at 102 plus accrued interest. Euro uses straight-line amortization.

Solution 14-62

| | | | |
|------|--|---------|---------|
| (a) | Cash | 645,442 | |
| | Bonds Payable | | 631,942 |
| | Interest Expense ($\$600,000 \times 9\% \times 3/12$)..... | | 13,500 |
| | | | |
| (b) | Interest Expense | 7,609 | |
| | Bonds Payable ($\$31,942 \times .3 \times 6/117$) | 491 | |
| | Cash ($\$180,000 \times 9\% \times 6/12$)..... | | 8,100 |
| | | | |
| | Bonds Payable | 187,371 | |
| | Cash | | 183,600 |
| | Gain on Redemption of Bonds | | 3,771 |

(Premium $\$31,942 \times .3 \times 90/117 = \$7,371$)

Ex. 14-63—Sale and subsequent buyback of bonds.

On July 1, 2011, Markov Corp. issued \$400,000 par value, 10%, 10-year bonds dated July 1, 2011, with interest payable semi-annually on January 1 and July 1. The bonds were issued for \$454,361. On January 1, 2013, Markov offered to buy back the bonds for 4 points above the market value of the bond, which was 99 at that date, i.e., at 103. Forty percent of the bondholders accepted the offer. Markov uses the effective interest method of amortizing premium or discount.

Instructions

- (a) Prepare the journal entry to record the bond issuance.
- (b) Prepare the adjusting entry at December 31, 2011, the end of the fiscal year.
- (c) Prepare the entry for the interest payment on January 1, 2012.
- (d) Record the retirement of the bonds on January 1, 2013.

Solution 14-63

First you need to solve for the yield, which gives 8%.

PV 454,361 N 20 PMT (20,000) CPT I => 8%

| Year | Interest Payment | Interest expense | Premium Amortization | Carrying Value |
|----------|------------------|------------------|----------------------|----------------|
| Jul 1/11 | | | | 454,361 |
| Jan 1/12 | 20,000 | 18,174 | 1,826 | 452,535 |
| Jul 1/12 | 20,000 | 18,101 | 1,899 | 450,636 |
| Jan 1/13 | 20,000 | 18,025 | 1,975 | 448,661 |

| | | | |
|-----|---|---------|---------|
| (a) | Cash..... | 454,361 | |
| | Bonds Payable | | 454,361 |
| (b) | Interest Expense..... | 18,174 | |
| | Bonds Payable..... | 1,826 | |
| | Interest Payable | | 20,000 |
| | (Interest expense: $\$454,361 \times .08 \times \frac{1}{2} = \$18,174$) | | |
| (c) | Interest Payable..... | 20,000 | |
| | Cash | | 20,000 |
| (d) | Bonds Payable (448,661 x 40%)..... | 179,464 | |
| | Cash | | 164,800 |
| | Gain on Redemption of Bonds | | 14,664 |

Bond retirement price = $400,000 \times 1.03 \times 40\% = 164,800$

Ex. 14-64—Note issued for cash and other rights.

Rebecca Land Corp. issued a 5-year, zero-interest-bearing note with a \$1,000,000 face value to Lindsay Inc. for \$1,000,000 cash. Rebecca also gave Lindsay the right to use a parcel of land for equipment storage for 5 years. Interest rates for notes of this type were 8% at the time of issue.

Instructions

Prepare the journal entries to record the issuance of the note by (1) Rebecca and (2) Lindsay.

Solution 14-64

Rebecca

| | | |
|-------------------------------|-----------|-----------|
| Cash | 1,000,000 | |
| Notes Payable | | * 680,500 |
| Unearned Revenue (Rent) | | 319,420 |

Lindsay

| | | |
|------------------------|-----------|-----------|
| Notes Receivable | * 680,500 | |
| Prepaid Rent | 319,420 | |
| Cash | | 1,000,000 |

\$680,580 is the present value of \$1,000,000 at 8% for 5 years

Ex. 14-65—Note issued for non-cash consideration.

On July 1, 2011, Antrim Holdings Ltd. issued a \$100,000 face value note due June 30, 2014 with a stated interest rate of 4% to BestBiz Consultants in return for consulting services provided in 2011. The value of the consulting services is not readily determinable and the note is not readily marketable. On the basis of a credit analysis, a fair imputed interest rate would be 12%.

Instructions

Prepare the journal entry to record the issuance of the note by Antrim.

Solution 14-65

| | | |
|--------------------------------------|--------|--------|
| Operating (consulting) Expense | 80,785 | |
| Notes Payable | | 80,785 |

| | |
|--|--------|
| PV of \$100,000 due in 3 years at 12% (.71178 × \$100,000) | 71,178 |
| PV of \$4,000 annual interest (2.40183 × \$4,000) | 9,607 |
| PV of note | 80,785 |

OR N 3 %i 12 FV 100000 CPT PV

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Ex. 14-66—Retirement of bonds.

The December 31, 2010 balance sheet of Toews Corp. included the following items:

7.5% bonds payable due December 31, 2018 \$576,000

The bonds have a face value of \$600,000, and were issued on December 31, 2008 at 95. Interest is payable semi-annually on June 30 and December 31. The company uses straight-line amortization.

On April 1, 2011, Toews retired \$120,000 of these bonds at 101 plus accrued interest.

Instructions

Prepare journal entries to record the retirement. Show calculations and round values to the nearest dollar.

Solution 14-66

| | | |
|---|-----------|---------|
| Interest Expense | 2,400 | |
| Cash ($\$120,000 \times 7.5\% \times 3/12$)..... | | 2,250 |
| Bonds Payable ($\$24,000 \times 1/5 \times 1/8 \times 3/12$)..... | | 150 |
| | | |
| Bonds Payable | * 115,350 | |
| Loss on Redemption of Bonds..... | 5,850 | |
| Cash..... | | 121,200 |

* $\$120,000$ less discount of $[(1/5 \times \$24,000) - \$150] = \$4,650$

Ex. 14-67—Early extinguishment of debt.

On August 1, 2009, Shakespeare Inc sold 8%, five year bonds with a maturity value of \$1,000,000 for \$982,000. Interest on the bonds is payable semi-annually on August 1 and February 1. The bonds are callable at 104 at any time after August 1, 2011. By October 1, 2011, the market rate of interest had declined and the market price of Shakespeare's bonds had risen to 102. The company decides to refund the bonds by selling a new 6% bond issue to mature in five years. Shakespeare begins to reacquire its 8% bonds in the market and is able to purchase \$300,000 worth at 102. The remainder of the outstanding bonds are acquired by exercising the bonds' call feature.

Instructions

How much is Shakespeare's total gain or loss in reacquiring its 8% bonds? Assume the company uses straight-line amortization. Show calculations.

Solution 14-67

| | | | |
|----------------------------------|----------------|----------------|------------------|
| Reacquisition price: | | | |
| \$300,000 × 1.02 = | \$306,000 | | |
| \$700,000 × 1.04 = | <u>728,000</u> | \$1,034,000 | |
| Less carrying value: | | | |
| \$982,000 + (\$18,000 × 26/60) = | | <u>989,800</u> | |
| Loss on redemption | | | <u>\$ 44,200</u> |

Ex. 14-68—Accounting for a troubled debt settlement.

At December 31, 2012, Oscar Ltd owes Wilde Corp for a \$300,000 note payable, plus accrued interest of \$27,000. Oscar is now in financial difficulty and cannot repay Wilde. To settle the debt, Wilde agrees to accept from Oscar equipment with a fair value of \$285,000, an original cost of \$420,000, and accumulated depreciation to date of \$98,000.

Instructions

- (a) Calculate the gain or loss to Oscar on the settlement of the debt.
- (b) Calculate the gain or loss to Oscar on the transfer of the equipment.
- (c) Prepare the journal entry on Oscar's books to record the settlement of the debt.
- (d) Prepare the journal entry on Wilde's books to record the settlement of the receivable.

Solution 14-68

| | | | |
|-----|------------------------------------|------------------|---------|
| (a) | Note payable | \$300,000 | |
| | Interest payable | <u>27,000</u> | |
| | Carrying value of debt | 327,000 | |
| | Fair value of equipment | <u>285,000</u> | |
| | Gain on settlement of debt | <u>\$ 42,000</u> | |
| (b) | Cost | \$420,000 | |
| | Accumulated depreciation | <u>98,000</u> | |
| | Book value | 322,000 | |
| | Fair value of equipment | <u>285,000</u> | |
| | Loss on disposal of equipment | <u>\$ 37,000</u> | |
| (c) | Notes Payable..... | 300,000 | |
| | Interest Payable | 27,000 | |
| | Accumulated Depreciation..... | 98,000 | |
| | Loss on Disposal of Equipment..... | 37,000 | |
| | Equipment | | 420,000 |
| | Gain on Settlement of Debt..... | | 42,000 |
| (d) | Equipment..... | 285,000 | |
| | Loss on Settlement of Debt | 42,000 | |
| | Notes Receivable..... | | 300,000 |
| | Interest Receivable | | 27,000 |

Ex. 14-69—Accounting procedures for bond redemptions.

Describe the accounting procedures for the early redemption of bonds.

Solution 14-69

At the time of redemption, any unamortized premium or discount and any applicable issue costs must be amortized up to the reacquisition date. The amount paid on early redemption, including any call premium and expense of reacquisition, is the reacquisition price. Any excess of the carrying value over the reacquisition price is a gain from redemption, while any excess of the reacquisition price over the carrying value is a loss from redemption.

Ex. 14-70—Accounting for a troubled debt restructuring.

On December 31, 2010, Beckham is in financial difficulty and cannot pay a \$700,000 note (with \$70,000 accrued interest payable) to Victoria. Victoria agrees to forgive the accrued interest, extend the maturity date to December 31, 2012, and reduce the interest rate to 4%. The present value of the restructured cash flows is \$599,000.

Instructions

Prepare entries for the following:

- (a) The restructure on Beckham's books.
- (b) The payment of interest on December 31, 2011.
- (c) The restructure on Victoria's books.

Solution 14-70

- (a) Old debt: PV = \$770,000
 New debt: PV = \$599,000
 The new debt differs by more than 10%: $\$171,000/\$770,000 = 22.2\%$

| | | |
|-----------------------------|---------|---------|
| Notes Payable (old) | 700,000 | |
| Interest Payable..... | 70,000 | |
| Notes Payable (new)..... | | 599,000 |
| Gain on Restructuring | | 171,000 |

- (b) Imputed interest rate using FV = \$700,000, PV = \$599,000, Payment = \$28,000 is 12.61%.

| | | |
|--|--------|--------|
| Interest Expense ($\$599,000 \times 12.61\%$)..... | 75,534 | |
| Cash | | 28,000 |
| Notes Payable..... | | 47,534 |

- (c) Loss on Restructuring
- | | | |
|---------------------------|---------|---------|
| Notes Receivable | 171,000 | |
| Interest Receivable | | 101,000 |
| | | 70,000 |

Ex. 14-71—Accounting for troubled debt.

- (a) What are the general rules for measuring and recognizing gain or loss by the debtor on a settlement of troubled debt, which includes the transfer of noncash assets?
- (b) What are the general rules for measuring and recognizing a gain and for recording future payments by the debtor in a troubled debt restructuring?

Solution 14-71

- (a) If the settlement of debt includes the transfer of noncash assets, a gain is measured by the debtor as the difference between the fair value of the assets transferred and the carrying amount of the debt, including accrued interest. The debtor also recognizes a gain or loss on the disposal of assets as the difference between the fair value of the assets transferred and their book value.
- (b) If the carrying amount of the payable is greater than the discounted total future cash flows, based on currently prevailing interest rates, the gain is measured as the difference between the carrying amount and the discounted future cash flows. The gain is separately classified in the income statement and the nature of the restructuring is disclosed if the amount of the gain is material. The same treatment is given if a loss results. Future payments are used to reduce the principal and record interest expense.

PROBLEMS

Pr. 14-72—Bond interest and discount amortization.

On June 1, 2011, Bella Cooler Corp sold 10 year, \$500,000 (face value) bonds for \$438,800. The bonds have a stated interest rate of 8% and a yield rate of 10%, and pay interest annually on May 31 of each year. The bonds are to be accounted for using the effective interest method.

Instructions

- (a) Construct a bond amortization table for this bond to indicate the amount of interest expense and discount amortization at each May 31. Include only the first four years. Make sure all columns and rows are properly labelled, and round to the nearest dollar.
- (b) The sales price of \$438,800 was determined from present value tables. Explain how one would determine the price using present value tables, or by using a calculator.
- (c) Assuming that interest and discount amortization are recorded each May 31, prepare the adjusting entry at December 31, 2013 (fiscal year end). Round to the nearest dollar.

Solution 14-72

| <u>Date</u> | <u>Credit Cash</u> | <u>Debit Interest Expense</u> | <u>Credit Bond Payable (Discount)</u> | <u>Carrying Amount of Bonds</u> |
|-------------|--------------------|-------------------------------|---------------------------------------|---------------------------------|
| Jun 1/11 | | | | \$438,800 |
| May 31/12 | \$40,000 | \$43,880 | \$3,880 | 442,680 |
| May 31/13 | 40,000 | 44,268 | 4,268 | 446,948 |
| May 31/14 | 40,000 | 44,695 | 4,695 | 451,643 |
| May 31/15 | 40,000 | 45,164 | 5,164 | 456,807 |

- (b) (1) Find the present value of \$500,000 due in 10 years at 10%.
- (2) Find the present value of 10 annual payments of \$40,000 at 10%.
- (3) Add (1) and (2) to obtain the present value of the principal and the interest payments.

Calculator: N 10 %I 5 PMT 40000 FV 500000 CPT PV

| | | |
|---------------------------|---------|----------|
| (c) Interest Expense..... | 26,072* | |
| Interest Payable | | 23,333** |
| Bonds Payable..... | | 2,739 |

*7/12 × \$44,695 (from Table) = \$26,072

** 7/12 × 8% × \$500,000 = \$23,333

Pr. 14-73—Bond interest and discount amortization.

Maggio Corporation issued \$400,000 8% bonds on October 1, 2010, due on October 1, 2015. Interest is to be paid semi-annually on April 1 and October 1. The bonds were sold to yield 10% effective annual interest. Maggio Corporation has a calendar year end.

Instructions

- (a) Complete the following amortization schedule for the dates indicated. Round all answers to the nearest dollar. Use the effective interest method.

| | <u>Credit Cash</u> | <u>Debit Interest Expense</u> | <u>Credit Bond Payable (Discount)</u> | <u>Carrying Amount of Bonds</u> |
|----------|--------------------|-----------------------------------|---|-------------------------------------|
| Oct 1/10 | | | | \$369,112 |
| Apr 1/11 | | | | |
| Oct 1/11 | | | | |

- (b) Prepare the adjusting entry required for these bonds at December 31, 2011.
 (c) Calculate the interest expense to be reported in the income statement for the year ended December 31, 2011.

Solution 14-73

(a)

| | <u>Credit Cash</u> | <u>Debit Interest Expense</u> | <u>Credit Bond Discount (Discount)</u> | <u>Carrying Amount of Bonds</u> |
|----------|--------------------|-----------------------------------|--|-------------------------------------|
| Oct 1/10 | | | | \$369,112 |
| Apr 1/11 | \$16,000 | \$18,456 | \$2,456 | 371,568 |
| Oct 1/11 | 16,000 | 18,578 | 2,578 | 374,146 |

(b)

| | | |
|--|-------|-------|
| Interest Expense ($\$374,146 \times 10\% \times 3/12$) | 9,354 | |
| Interest Payable ($1/2 \times \$16,000$)..... | | 8,000 |
| Bonds Payable ($\$9,354 - \$8,000$)..... | | 1,354 |

(c)

| | |
|-----------------|-------------------|
| \$ 9,228 | (1/2 of \$18,456) |
| 18,578 | |
| <u>9,354</u> | |
| <u>\$37,160</u> | |

Pr. 14-74—Entries for bonds payable.

Instructions

Prepare the necessary journal entries to record the following transactions relating to the long-term issuance of bonds by Georgian Bay Corp. Show calculations and round to the nearest dollar.

March 1

Issued \$200,000 (face value) 8% bonds for \$218,040, including accrued interest. Interest is payable semi-annually on December 1 and June 1 with the bonds maturing 10 years from the previous December 1. The bonds are callable at 102.

June 1

Paid semi-annual interest on the bonds. Use straight-line amortization of any premium or discount.

December 1

Paid semi-annual interest on the bonds, and then purchased \$100,000 face value bonds at the call price in accordance with the provisions of the bond indenture.

Solution 14-74

| | | | |
|----------|--|---------|---------|
| March 1: | Cash | 218,040 | |
| | Bonds Payable | | 214,040 |
| | Interest Expense (\$200,000 × 8% × 3/12) | | 4,000 |
| June 1: | Interest Expense | 7,640 | |
| | Bonds Payable (\$14,040 × 3/117) | 360 | |
| | Cash | | 8,000 |
| Dec. 1: | Interest Expense | 7,280 | |
| | Bonds Payable (\$14,040 × 6/117) | 720 | |
| | Cash | | 8,000 |
| | Bonds Payable * | 106,480 | |
| | Gain on Redemption of Bonds | | 4,480 |
| | Cash | | 102,000 |

* Premium is now $1/2 \times (\$14,040 - \$360 - \$720) = \$6,480$.

Pr. 14-75—Entries for bonds payable.

Instructions

Prepare journal entries to record the following transactions relating to long-term bonds of Leonardo Inc. Show calculations and round to the nearest dollar.

- (a) On June 1, 2011, Leonardo Inc. issued \$400,000, 6% bonds for \$391,760, including accrued interest. The bonds were dated February 1, 2011, and interest is payable semi-annually on February 1 and August 1 with the bonds maturing on February 1, 2021. The bonds are callable at 102.
- (b) On August 1, 2011, Leonardo paid the semi-annual interest and recorded the amortization of the discount or premium, using straight-line amortization.
- (c) On February 1, 2013, Leonardo paid the semi-annual interest and recorded amortization of the discount or premium.
- (d) The company then purchased \$240,000 of the bonds at the call price. Assume that a reversing entry was made on January 1, 2013 .

Solution 14-75

| | | |
|--|---------|---------|
| (a) Cash | 391,760 | |
| Bonds Payable | | 383,760 |
| Interest Expense ($\$400,000 \times 6\% \times 4/12$)..... | | 8,000 |
| (b) Interest Expense ($\$400,000 \times 6\% \times 6/12$) + \$280..... | 12,280 | |
| Cash | | 12,000 |
| Bonds Payable ($\$16,240 \times 2/116$)..... | | 280 |
| (c) Interest Expense ($\$12,000 + \840)..... | 12,840 | |
| Cash | | 12,000 |
| Bonds Payable ($\$16,240 \times 6/116$)..... | | 840 |
| (d) Bonds Payable * | 231,936 | |
| Loss on Bond Redemption..... | 12,864 | |
| Cash | | 244,800 |

* Discount is $60\% \times (\$16,240 - \$2,800) = \$8,064$

Pr. 14-76—Accounting for a troubled debt settlement.

Kane Ltd., who owes Patrick Corp. \$300,000 in notes payable, is in financial difficulty. To eliminate the debt, Patrick agrees to accept from Kane land having a fair value of \$227,500 and a recorded cost of \$170,000.

Instructions

- (a) Calculate the amount of gain or loss to Kane on the transfer (disposition) of the land.
- (b) Calculate the amount of gain or loss to Kane on the settlement of the debt.
- (c) Prepare the journal entry on Kane's books to record the settlement of the debt.
- (d) Calculate the gain or loss to Patrick from settlement of the receivable from Kane.
- (e) Prepare the journal entry on Patrick's books to record the settlement of the receivable.

Solution 14-76

| | | | | |
|-----|-----------------------------------|------------------|---------|---------|
| (a) | Fair value of land | \$227,500 | | |
| | Cost of land to Kane | <u>170,000</u> | | |
| | Gain on disposition of land | <u>\$ 57,500</u> | | |
| (b) | Carrying amount of debt | \$300,000 | | |
| | Fair value of land given | <u>227,500</u> | | |
| | Gain on settlement of debt | <u>\$ 72,500</u> | | |
| (c) | Notes Payable | | 300,000 | |
| | Land..... | | | 170,000 |
| | Gain on Disposition of Land | | | 57,500 |
| | Gain on Settlement of Debt..... | | | 72,500 |
| (d) | Carrying amount of receivable | \$300,000 | | |
| | Land received in settlement | <u>227,500</u> | | |
| | Loss on settlement of debt | <u>\$ 72,500</u> | | |
| (e) | Land | | 227,500 | |
| | Loss on Settlement of Debt..... | | 72,500 | |
| | Notes Receivable..... | | | 300,000 |

Pr. 14-77—Accounting for bond issuance and retirement.Part A

Twilight Corp. desired to raise cash to fund its expansion by issuing long-term bonds. The corporation hired an investment banker to manage the issue (best efforts underwriting) and also hired the services of a lawyer, an audit firm, etc. On June 1, 2011, Twilight sold \$500,000 in long-term bonds for net cash proceeds of \$426,000. The bonds will mature in 10 years and have a stated interest rate of 8%. Other bonds that Twilight has issued with identical terms are traded based on a market yield rate of 10%. The bonds pay interest semi-annually on May 31 and November 30. The bonds are to be accounted for using the effective interest method. Any issue costs are amortized on a straight-line basis. On June 1, 2013 Twilight decided to retire 20% of the bonds. At that time the bonds were selling at 101.

Instructions (Round all values to the nearest dollar)

- a) Prepare the journal entry for the issuance of the bonds on June 1, 2011.
- b) What was the interest expense related to these bonds that would be reported on Twilight's 2011 income statement?
- c) Prepare all entries from after the issue of the bond till December 31, 2011.
- d) Calculate the gain or loss on the partial retirement of the bonds on June 1, 2013.
- e) Prepare the journal entries to record the partial retirement on June 1, 2013.

Part B

Refer to the information in part A. Suppose that instead of issuing the bond for cash, Twilight issues the bonds to its lawyer in exchange for legal services to be provided over the next three years.

- a) Suggest a possible reason (or reasons) for that arrangement.
- b) What would change in the accounting treatment as a result? There is no need to provide all the entries, but you must provide a clear explanation.

Solution 14-77

Part A

| | |
|--------------------------------------|---------|
| Semi-annual stated rate | 4% |
| Semi-annual market rate | 5% |
| No. of periods | 20 |
| Face value | 500,000 |
| Bond proceeds | 426,000 |
| | |
| PV of interest payments | 249,244 |
| PV of principal | 188,445 |
| Bond sells for | 437,689 |
| Bond discount (500,000 – 437,689) | 62,311 |
| Bond issue costs (437,689 – 426,000) | 11,689 |

a)

| | | |
|------------------|---------|---------|
| Cash | 426,000 | |
| Bond issue costs | 11,689 | |
| Bonds payable | | 437,689 |

b)

| <u>Date</u> | <u>Credit</u> <u>Cash</u> | <u>Debit</u> <u>Interest</u> <u>Expense</u> | <u>Credit</u> <u>Bond Payable</u> <u>(Discount)</u> | <u>Carrying Value</u> <u>of Bonds</u> |
|-------------|------------------------------|---|---|--|
| Jun 1/11 | | | | 437,689 |
| Nov 30/11 | 20,000 | 21,884 | 1,884 | 439,573 |
| May 31/12 | 20,000 | 21,979 | 1,979 | 441,552 |
| Nov 30/12 | 20,000 | 22,078 | 2,078 | 443,630 |
| May 31/13 | 20,000 | 22,181 | 2,181 | 445,811 |

Interest expense for 2011 = 21,884 + (1/6 x 21,979) = 25,548

Pr. 14-78—Bond accounting, ratios, debt covenants.

Superior Equipment Corporation is a public company manufacturing high-precision equipment. On January 1, 2008, Superior issued a 12% \$10,000,000 bond, maturing in ten years. The bond had a carrying value of \$9,300,000 at January 1, 2011. Interest is payable semi-annually on June 30 and December 31. The company uses the straight-line method of amortizing any bond premium or discount.

The bond carries covenants that call for the firm’s debt to total assets ratio to be no higher than 50% and their times interest earned ratio to be at least 2.

You are the CEO of Superior. You have been on the job for a year after the previous CEO was fired for missing earnings targets. You are a McGill University grad with a major in Accounting.

Superior’s business is cyclical and the last two years have been tough. In recent months however, there have been signs of recovery in the industry, and many distributors have placed large orders for Superior’s equipment. Delivery of the equipment is expected in 2012 and 2013. You are under pressure from the Board of Directors to show improvement in the bottom line.

It is now November 30, 2011, and you have just met with the company’s CFO, Ms. Grimm. In preparation for the coming year end on December 31, 2011, she has prepared forecasted financial statements, but has not included the effects of the \$10,000,000 bond issue.

Below is a summary of those statements:

Income Statement

| | |
|--|-------------------|
| | \$ |
| Sales | 28,000,000 |
| COGS | <u>20,000,000</u> |
| Gross profit | 8,000,000 |
| Operating expenses | <u>5,465,000</u> |
| Operating income before interest expense | 2,535,000 |
| Bond interest expense | <u>?</u> |
| Income before income tax | <u>?</u> |
| Income tax (35%) | <u>?</u> |
| Net income | <u><u>?</u></u> |

Balance Sheet

| | |
|------------------------------|--------------------------|
| Current assets | 14,700,000 |
| Non-current assets | <u>22,000,000</u> |
| Total assets | <u><u>36,700,000</u></u> |
| Current liabilities | 9,000,000 |
| Bonds payable | ? |
| Shareholders’ equity | <u>?</u> |
| Total liabilities and equity | <u><u>36,700,000</u></u> |

Additional information:

1. Except for the bond, the company did not incur any other interest expense.
2. The last time entries were recorded for the bond was at the end of the third quarter (September 30, 2011), when adjusting entries were prepared.

Instructions

- a) Prepare the journal entries related to the bond payable for the last quarter of 2011. The entries should reflect the payment of interest and related amortization of the premium or discount.
- b) Complete the forecasted financial statements for December 31, 2011 by including the effects of the bond payable.
- c) Using the financial statements from part b), calculate the times interest earned and debt to total assets ratios.
- d) Given your calculations in part c), is Superior forecasted to be in violation of the debt covenants? If yes, what action(s) would you recommend? Discuss the advantages/disadvantages of each recommendation.

Solution 14-78

a) The interest to be paid on December 31, 2011 is \$600,000 ($\$10,000,000 \times 12\% \times 6/12$). Half of this is to be recorded as interest expense for this quarter. Amortization of the premium is \$100,000 per year, \$25,000 for the fourth quarter.

On September 30, 2011, at the end of the third quarter, the following entry would have been posted:

| | | |
|-----------------------|---------|---------|
| Interest expense | 325,000 | |
| Bond interest payable | | 300,000 |
| Bond payable | | 25,000 |

On December 31, 2011, Superior should post the following entry:

| | | |
|-----------------------|---------|---------|
| Interest expense | 325,000 | |
| Bond interest payable | | 300,000 |
| Cash | | 600,000 |
| Bond payable | | 25,000 |

Solution 14-78 (continued)

b)

Income Statement

| | \$ |
|--|------------------------------|
| Sales | 28,000,000 |
| COGS | <u>20,000,000</u> |
| Gross profit | 8,000,000 |
| Operating expenses | <u>5,465,000</u> |
| Operating income before interest expense | 2,535,000 |
| Bond interest expense | <u>1,300,000¹</u> |
| Income before income tax | 1,235,000 |
| Income tax (35%) | <u>432,250²</u> |
| Net Income | <u><u>802,750</u></u> |

¹ Interest expense = (10,000,000 x 12%) + 100,000 = 1,300,000.

² Income tax = 1,235,000 x 35% = 432,250.

Balance Sheet

| | | |
|------------------------------|-------------------------|---------------|
| Current assets | 14,100,000 ³ | |
| Non-current assets | <u>22,000,000</u> | |
| Total assets | <u>36,100,000</u> | |
| | | |
| Current Liabilities | 8,700,000 | |
| Bonds payable | 9,400,000 ⁴ | |
| Shareholders' equity | <u>18,000,000</u> | (plug number) |
| Total liabilities and equity | <u>36,100,000</u> | |

¹ Interest expense = (10,000,000 x 12%) + 100,000 = 1,300,000.

² Income tax = 1,235,000 x 35% = 432,250.

³ Current assets = 14,700,000 – 600,000 = 14,100,000.

⁴ Bonds payable = carrying value Jan 1/11 + 2011 amortization = 9,300,000 + 100,000 = 9,400,000.

$$c) \text{ Times Interest Earned} = \frac{\text{Income before income taxes and interest}}{\text{Interest Expense}} = \frac{2,535,000}{1,300,000} = \underline{1.95}$$

$$\text{Debt to Total Assets} = \frac{\text{Total debt}}{\text{Total assets}} = \frac{(8,700,000 + 9,400,000)}{36,100,000} = \frac{18,100,000}{36,100,000} = \underline{0.5014}$$

Solution 14-78 (continued)

d) The firm is forecasted to be in violation of the debt covenant. However, the ratios are very close to the minimum requirements. As CEO, you could recommend one of the following:

- a. Do nothing and run the risk of a default on the bond, or possibly run the risk of a negative stock-market reaction for being in violation of the covenants.
- b. Meet the creditors, present your case of expected economic recovery and ask them to wait one more quarter before acting or to waive the covenants for a short period.
- c. Renegotiate with the creditors.

The above options might be challenging given the need to convince many creditors and the possible market reaction.

- d. If these are callable bonds or they can be purchased on the open market, buy some of back to extinguish some of the debt, which will also reduce the related interest expense.
- e. Sell some operating assets that will yield a gain and use the proceeds to lower debt. For example, using the proceeds to pay your suppliers earlier may improve relations if a potential debt restructuring is to be negotiated.
- f. Apply earnings management techniques to increase earnings and total assets. For example, cut back on discretionary expenses such as advertising, repairs & maintenance, promotion, etc.

Option (d) might help to avoid the debt to total assets ratio violation, but might be too late to avoid interest expense and the violation of the times Interest earned ratio violation.

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CHAPTER 15

SHAREHOLDERS' EQUITY

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|---|
| d | 1. | Classification of shareholders' equity. |
| c | 2. | Residual interest. |
| b | 3. | REITs. |
| a | 4. | Pre-emptive right. |
| d | 5. | Shareholders' liability. |
| b | 6. | Cumulative preferred shares features. |
| c | 7. | Cumulative preferred shares dividend provisions. |
| b | 8. | Callable preferred shares. |
| c | 9. | Total shareholders' equity. |
| b | 10. | Reasons for issuing preferred shares. |
| c | 11. | Significance of par value. |
| d | 12. | Common shares subscribed. |
| d | 13. | Classification of subscriptions receivable. |
| b | 14. | Allocation methods for a lump sum issuance. |
| a | 15. | Direct costs of issuing shares. |
| c | 16. | Reacquisition of shares. |
| d | 17. | Reacquisition of shares at less than average share value. |
| c | 18. | Reacquisition of shares at greater than original issue price. |
| b | 19. | Retirement of shares. |
| c | 20. | Retirement of shares. |
| b | 21. | Retirement of shares. |
| c | 22. | Transactions causing a decrease in retained earnings. |
| b | 23. | Transactions causing an increase in retained earnings. |
| d | 24. | Legality of dividend distributions. |
| b | 25. | Timing of entry to record dividends. |
| c | 26. | Shares entitled to receive a cash dividend. |
| a | 27. | Definition of a property dividend. |
| c | 28. | Determine false statement regarding property dividends. |
| d | 29. | Fair value of a property dividend. |
| a | 30. | Effect of a stock dividend. |
| b | 31. | Knowledge of dividend declarations. |
| b | 32. | Knowledge of dividend declarations. |
| d | 33. | Effect of large stock dividend. |
| a | 34. | Accounting for stock split. |
| b | 35. | Accounting for stock dividend. |
| c | 36. | Large stock dividend. |
| b | 37. | Reporting of Common Stock Dividend Distributable. |

MULTIPLE CHOICE—Conceptual (cont'd)

| Answer | No. | Description |
|--------|------|--|
| a | 38. | Liquidating dividend. |
| b | 39. | Entry to record a liquidating dividend. |
| b | 40. | Effects of stock dividends and stock splits. |
| a | 41. | Effects of a stock split. |
| c | 42. | Valid reasons for stock splits. |
| c | 43. | Knowledge of what shares receive dividends. |
| b | 44. | Noncumulative preferred dividends in arrears. |
| d | 45. | Cumulative preferred dividends in arrears. |
| c | 46. | Statement of Changes in Shareholders' Equity (IFRS). |
| b | 47. | Calculation of payout ratio. |
| c | 48. | Rate of return on common shareholders' equity. |
| b | 49. | Calculation of price earnings ratio. |
| d | 50. | Book value per common shares. |
| a | *51. | Sale of treasury shares. |
| a | *52. | Reissuance of treasury shares at less than acquisition cost. |
| c | *53. | Reporting treasury shares in the balance sheet. |
| c | *54. | Common shares issued vs. outstanding. |
| d | *55. | Determining occurrence of financial reorganization. |
| a | *56. | Balance of retained earnings after a financial reorganization. |
| b | *57. | Financial reorganization requirements. |
| b | *58. | IFRS vs. PE GAAP guidance. |

*This topic is dealt with in an Appendix to the chapter.

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|--|
| b | 59. | Calculation of contributed surplus. |
| c | 60. | Calculation of contributed capital. |
| b | 61. | Calculation of share account balance. |
| a | 62. | Calculation of contributed surplus. |
| b | 63. | Entry to record share subscriptions. |
| a | 64. | Entry to record share subscriptions. |
| a | 65. | Calculation of total equity. |
| b | 66. | Share subscriptions. |
| b | 67. | Property dividend. |
| c | 68. | Entry to record stock dividend. |
| c | 69. | Calculation of share account after stock dividend. |
| a | 70. | Calculation of retained earnings after stock dividend. |
| c | 71. | Effect on equity accounts after dividend declarations. |
| c | 72. | Effect of stock dividend on retained earnings. |
| a | 73. | Effect of stock dividend on retained earnings. |
| b | 74. | Effect of share cancellation on equity accounts. |
| d | 75. | Effect of share cancellation on equity accounts. |

MULTIPLE CHOICE—Computational (cont.)

| Answer | No. | Description |
|--------|-------|---|
| d | 76. | Calculation of cash dividend allocation. |
| b | 77. | Calculation of cash dividend allocation. |
| d | 78. | Calculation of cash dividend allocation. |
| b | 79. | Calculation of cash dividend allocation. |
| c | 80. | Calculation of cash dividend allocation. |
| b | 81. | Calculation of cash dividend allocation. |
| b | 82. | Calculation of cash dividend allocation. |
| b | 83. | Calculation of cash dividend allocation. |
| a | 84. | Calculation of cash dividends paid (given payout ratio). |
| a | 85. | Calculation of price-earnings ratio. |
| b | 86. | Calculation of rate of return on common shareholders' equity. |
| c | 87. | Calculation of rate of return on common shareholders' equity. |
| b | 88. | Calculation of price-earnings ratio. |
| d | 89. | Calculation of book value. |
| a | *90. | Effect on income statement of sale of treasury shares. |
| c | *91. | Recording par value shares. |
| d | *92. | Retirement of par value shares. |
| c | *93. | Sale of treasury shares. |
| a | *94. | Cancellation of treasury shares. |
| c | *95. | Effect of treasury shares on equity. |
| d | *96. | Total equity with treasury shares exchange. |
| c | *97. | Calculation of contributed surplus with treasury shares transactions. |
| d | *98. | Recording retirement of shares. |
| b | *99. | Retained earnings balance with treasury shares transactions. |
| a | *100. | Retained earnings balance with cancelled shares. |
| a | *101. | Total equity with treasury shares transactions. |
| b | *102. | Retained earnings balance with treasury shares transactions. |
| b | *103. | Effect of stock dividend on retained earnings (with treasury shares). |
| a | *104. | Adjustment of common shares in a financial reorganization. |
| b | *105. | Effect on deficit from revaluation of assets in a financial reorganization. |
| d | *106. | Effect of financial reorganization on retained earnings. |

*This topic is dealt with in an Appendix to the chapter.

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|------|--|
| b | 107. | Common shares issued in payment of services. |
| b | 108. | Determine entry to incorporate an individual proprietorship. |
| c | 109. | Calculate amount to credit preferred shares in lump sum issue. |
| d | 110. | Accounting for share subscriptions. |
| c | 111. | Calculate contributed surplus from retirement of shares. |
| a | 112. | Determination of cash dividends. |
| c | 113. | Allocation of cash dividend to common and preferred shares. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-------|--|
| c | 114. | Valuation of a property dividend. |
| a | 115. | Accounting effects of property dividends. |
| d | 116. | Entry to record declaration of property dividend. |
| b | 117. | Effect of a liquidating dividend on equity accounts. |
| c | 118. | Effect of a stock dividend on equity accounts. |
| d | 119. | Effect of a stock dividend on total equity. |
| d | 120. | Effect of stock dividends and stock splits. |
| a | 121. | Balance of retained earnings after a stock dividend. |
| b | *122. | Effect of reissuance of treasury shares. |
| c | *123. | Effect of reissuance of treasury shares. |
| c | *124. | Effect of treasury shares on number of shares outstanding. |

*This topic is dealt with in an Appendix to the chapter.

EXERCISES

| Item | Description |
|----------|---|
| E15-125 | True or false questions. |
| E15-126 | Lump sum issuance of shares. |
| E15-127 | Shareholders' equity. |
| E15-128 | Share subscriptions. |
| E15-129 | Shares issued in noncash transactions. |
| E15-130 | Reacquisition and retirement of shares. |
| E15-131 | Reacquisition of shares. |
| E15-132 | Dividend amount determination. |
| E15-133 | Items affecting retained earnings. |
| E15-134 | Stock dividends. |
| E15-135 | Stock dividends and stock splits. |
| E15-136 | Dividends on preferred shares. |
| E15-137 | Dividends on preferred shares. |
| E15-138 | Dividends on preferred shares. |
| E15-139 | Dividends on preferred shares. |
| *E15-140 | Calculation of selected financial ratios. |
| *E15-141 | Lump sum issuance of par value shares. |
| *E15-142 | Treasury shares. |
| *E15-143 | Treasury shares. |
| *E15-144 | Financial reorganization. |
| *E15-145 | Financial reorganization. |

PROBLEMS

| Item | Description |
|-------------|---|
| P15-146 | Issuance of shares for cash, non-cash consideration, and by subscription. |
| P15-147 | Issuance of shares for cash, non-cash consideration, and by subscription. |
| P15-148 | Allocation of cash dividends. |
| P15-149 | Equity transactions. |
| P15-150 | Share retirement and stock dividends. |
| P15-151 | Statement of Shareholders' Equity |
| P15-152 | Dividend distribution. |
| *P15-153 | Treasury share transactions. |

*This topic is dealt with in an Appendix to the chapter.

Unauthorized

MULTIPLE CHOICE—Conceptual

1. Shareholders' equity is generally classified into two major categories:
 - a. Contributed capital and donated capital.
 - b. Contributed surplus and retained earnings.
 - c. Retained earnings and Accumulated Other Comprehensive Income.
 - d. Earned capital and contributed capital
2. The residual interest in a corporation belongs to the
 - a. management.
 - b. creditors.
 - c. common shareholders.
 - d. preferred shareholders.
3. Which statement is correct regarding real estate income or investment trusts?
 - a. They are often set up as unlimited purpose trust funds.
 - b. They are considered to be special purpose entities.
 - c. The unitholders (investors) do not pay tax on the cash received from the trust.
 - d. The unitholders have unlimited liability.
4. The pre-emptive right enables a shareholder to
 - a. share proportionately in any new issues of shares in the same class.
 - b. receive cash dividends before other classes of shares without the pre-emptive right.
 - c. sell shares back to the corporation at the option of the shareholder.
 - d. receive the same amount of dividends on a percentage basis as the preferred shareholders.
5. The liability of shareholders is
 - a. similar to the liability of the owners of a partnership.
 - b. similar to the liability of the owner of a proprietorship.
 - c. equal to an amount sufficient to satisfy all creditors.
 - d. limited to their property or service invested in the corporation.
6. The cumulative feature of preferred shares
 - a. limits the amount of cumulative dividends to the par value of the preferred shares.
 - b. requires that dividends not paid in any year must be made up in a later year before dividends are distributed to common shareholders.
 - c. means that the shareholder can accumulate preferred shares until they are equal to the stated value of common shares, at which time they can be converted into common shares.
 - d. enables a preferred shareholder to accumulate dividends until they equal the stated value of the shares and receive the shares in place of the cash dividends.
7. Dividends on cumulative preferred shares
 - a. must be paid each year.
 - b. accumulate over the life of the shares and are paid on retirement.
 - c. must be paid before dividends may be paid on common shares.
 - d. if in arrears, must be calculated like compound interest.

8. Callable preferred shares
 - a. may be redeemed at any time at the shareholder's option.
 - b. may be called or redeemed at the option of the issuing corporation.
 - c. have voting rights.
 - d. have rights to participate in any new share issuance.

9. Total shareholders' equity represents
 - a. a claim to specific assets contributed by the owners.
 - b. the maximum amount that can be borrowed by the corporation.
 - c. a claim against a portion of the total assets of the corporation.
 - d. only the amount of earnings that have been retained in the corporation.

10. Preferred shares are often issued instead of debt
 - a. to avoid paying dividends to the common shareholders.
 - b. because a corporation's debt-to-equity ratio has become too high.
 - c. to increase the market value of the shares.
 - d. none of the above are correct reasons.

11. In jurisdictions where par value shares are legally allowed, the only real significance of par value is
 - a. to enable the shares to be callable or convertible.
 - b. to require the corporation to pay dividends.
 - c. to establish the maximum responsibility of a shareholder in the event of insolvency.
 - d. to establish the maximum price at which the shares can be sold.

12. Aye Corp. sells common shares on a subscription basis. The Common Shares account should be credited when the
 - a. shares are subscribed for.
 - b. first payment is made.
 - c. last payment is made.
 - d. last payment is made and the shares are issued.

13. Subscriptions Receivable are reported as
 - a. a noncurrent asset.
 - b. a current asset.
 - c. a deduction from shareholders' equity.
 - d. either a current asset or a deduction from shareholders' equity.

14. The accounting problem in a lump sum sale of shares is the allocation of the proceeds between the classes of securities. An acceptable method of allocation is the
 - a. pro forma method.
 - b. relative fair value method.
 - c. direct method.
 - d. none of the above.

15. Direct incremental costs incurred to sell shares such as underwriting costs should be accounted for as
 - a. a reduction of share capital.
 - b. an expense of the period in which the shares are issued.
 - c. an intangible asset.
 - d. a reduction of retained earnings.
16. According to the CBCA, when a company purchases its own shares on the market
 - a. they are recorded with a debit to Repurchased Shares.
 - b. the amount paid is deducted from the share class to which they belong.
 - c. they must be cancelled.
 - d. the excess of purchase price over cost is a loss.
17. When shares are reacquired at a cost less than the average per share value, the difference is credited to
 - a. the appropriate share capital account.
 - b. Gain on Reacquisition of Shares.
 - c. Retained Earnings.
 - d. Contributed Surplus.
18. Assuming a corporation has no contributed surplus booked, when shares are reacquired at a cost greater than their original issue price and cancelled, what account(s) should be debited?
 - a. The share account for the total cost.
 - b. The share account for the original issue price and contributed surplus for the additional amount.
 - c. The share account for the average per share amount and retained earnings for the additional amount.
 - d. The share account for the average per share amount and a loss account for the additional amount.
19. When shares are purchased or redeemed and cancelled, guidelines have been established for the sequence of accounts to adjust when allocating the cost. Which of the following is the first account to be adjusted?
 - a. A contributed surplus account created from a previous reacquisition of the same class of shares.
 - b. The share capital account.
 - c. Retained Earnings.
 - d. Accumulated Other Comprehensive Income.
20. Which of the following best describes a possible result of the reacquisition and cancellation of shares by a corporation?
 - a. May directly increase but not decrease retained earnings.
 - b. May increase net income if a gain is recognized.
 - c. May directly decrease but not increase retained earnings.
 - d. May decrease but not increase net income.

21. When all of the outstanding preferred shares are purchased and retired by the issuing corporation for less than the original issue price, accounting for the retirement increases
- the amount of dividends available to common shareholders.
 - the contributed capital of the common shareholders.
 - reported income for the period.
 - the treasury shares held by the corporation.
22. Which of the following transactions would *not* result in a decrease to retained earnings?
- Declaration and issuance of a stock dividend.
 - Incurrence of a net loss for the period.
 - Reacquisition of shares for less than the original issue price.
 - Correction of an error in which depreciation expense was understated in a prior period.
23. Which of the following transactions would *not* result in an increase to retained earnings?
- Correction of an error in which expenses were overstated in a previous year.
 - Issuance of a 3-for-1 stock split.
 - Reacquisition of shares for less than the original issue price.
 - Earning of net income for the period.
24. Which of the following statements is *not* generally true about the legality of dividend distributions?
- No amounts may be distributed unless the corporate capital is left intact.
 - The corporation must still be able to pay its liabilities when they become due.
 - A corporation may not pay dividends that are higher than their legally available retained earnings.
 - Dividends do not need to be formally approved by the Board of Directors.
25. An entry for dividends is *not* made on the
- date of declaration.
 - date of record.
 - date of payment.
 - An entry is made on all of these dates.
26. Cash dividends are paid on the basis of the number of shares
- authorized.
 - issued.
 - outstanding.
 - outstanding less the number of treasury shares.
27. Jesse Corp owns 4,000,000 shares of James Corp. On December 31, 2012, Jesse distributed these shares as a dividend to its shareholders. This is an example of a
- property dividend.
 - stock dividend.
 - liquidating dividend.
 - cash dividend

28. Which of the following statements about property dividends is *false*?
- A property dividend is a nonreciprocal transfer of nonmonetary assets.
 - A property dividend is also called a dividend in kind.
 - The accounting for a property dividend should be based on the carrying value (book value) of the nonmonetary assets transferred.
 - The accounting for a property dividend should be based on the fair value of the nonmonetary assets transferred.
29. The fair value of a property dividend should be determined by referring to
- estimated realizable values in cash transactions involving similar assets.
 - quoted market prices.
 - independent appraisals.
 - All of these are acceptable.
30. Declaration and issuance of a stock dividend
- has no effect on total assets, liabilities, or shareholders' equity.
 - decreases the amount of working capital.
 - decreases total shareholders' equity.
 - increases the current ratio.
31. If a corporation wishes to "capitalize" part of their earnings, it may issue a
- cash dividend.
 - stock dividend.
 - property dividend.
 - liquidating dividend.
32. Which type of dividends do *not* reduce shareholders' equity?
- Cash dividends.
 - Stock dividends.
 - Property dividends.
 - Liquidating dividends.
33. The declaration and issuance of a stock dividend larger than 25% generally
- increases common shares outstanding and increases total shareholders' equity.
 - increases retained earnings and increases total shareholders' equity.
 - may increase or decrease common shares but does not change total shareholders' equity.
 - decreases retained earnings but does not change total shareholders' equity.
34. Pryor Corporation issued a 2-for-1 common stock split. The shares had been originally issued at \$10 per share. At what amount should retained earnings be capitalized for the additional shares issued?
- There should be no capitalization of retained earnings.
 - \$10 per share.
 - Market value on the declaration date.
 - Market value on the payment date.

35. The issuer of a 5% common stock dividend to common shareholders should transfer from retained earnings to contributed capital an amount equal to the
- book value of the shares issued.
 - market value of the shares issued.
 - minimum legal requirements.
 - par or stated value of the shares issued.
36. As a minimum, how large in relation to total outstanding shares may a stock distribution be before it should be accounted for as a large stock dividend instead of as a small stock dividend?
- No less than 2% to 5%
 - No less than 10% to 15%
 - No less than 20% to 25%
 - No less than 45% to 50%
37. The balance in the Common Stock Dividend Distributable account should be reported as a(n)
- deduction from the Common Shares account.
 - addition to contributed capital.
 - current liability.
 - contra-asset.
38. A dividend which is a return to shareholders of a portion of their original capital investments is known as a
- liquidating dividend.
 - property dividend.
 - cash dividend.
 - participating dividend.
39. A mining company declared a liquidating dividend. The journal entry to record the declaration must include a debit to
- Retained earnings.
 - Contributed capital.
 - Accumulated other comprehensive income.
 - Dividend payable.
40. A feature common to both stock splits and stock dividends is
- a transfer to earned capital of a corporation.
 - that there is no effect on total shareholders' equity.
 - an increase in total liabilities of a corporation.
 - a reduction in the contributed capital of a corporation.
41. What effect does the issuance of a 2-for-1 stock split have on each of the following?
- | | <u>Common Shares</u> | <u>Retained Earnings</u> |
|----|----------------------|--------------------------|
| a. | No effect | No effect |
| b. | Increase | No effect |
| c. | Decrease | No effect |
| d. | Decrease | Decrease |

42. Which of the following is *not* a valid reason for a stock split?
- To increase the shareholder base by increasing the number of shares outstanding and making them more marketable.
 - To reduce the market price of the shares so that more individuals can afford to invest in the shares.
 - To increase the market price to make the stock more attractive.
 - All of these are valid reasons.
43. Dividends are *not* paid on
- noncumulative preferred shares.
 - nonparticipating preferred shares.
 - treasury shares.
 - any of the above.
44. Noncumulative preferred dividends in arrears
- must be paid before any other cash dividends can be distributed.
 - are not paid or disclosed.
 - are disclosed as a liability until paid.
 - are paid to preferred shareholders if sufficient funds remain after payment of the current preferred dividend.
45. How should cumulative preferred dividends in arrears be shown on the balance sheet?
- As an increase in shareholders' equity.
 - As an increase in current liabilities.
 - As an increase in current liabilities for the amount expected to be declared within the next year, and as an increase in long-term liabilities for the balance.
 - By note disclosure only.
46. Under IFRS, the Statement of Changes in Shareholders' Equity must include
- share capital and retained earnings only.
 - share capital and contributed surplus only.
 - share capital, accumulated other comprehensive income, contributed surplus, and retained earnings.
 - retained earnings, share capital, and accumulated other comprehensive income.
47. The payout ratio can be calculated by
- dividing cash dividends per share by earnings per share.
 - dividing cash dividends by net income less preferred dividends.
 - dividing cash dividends by market price per share.
 - dividing net income by cash dividends per share.
48. The rate of return on common shareholders' equity shows
- the amount of leverage the corporation employs.
 - the amount that each common shareholder would receive if the company were liquidated.
 - how many dollars of net income were earned for each dollar invested by the owners.
 - how the market value of the shares relates to the current earnings per share.

49. The price earnings (P/E) ratio is calculated by
- dividing dividends per share by earnings per share.
 - dividing the market price of the share by earnings per share.
 - dividing net income by cash dividends per share.
 - dividing cash dividends paid by the market price per share.
50. Hamilton Ltd has both common shares and non-participating, non-cumulative preferred shares outstanding. The book value per common share is not affected by
- the declaration of a preferred stock dividend.
 - the declaration of a common stock dividend when the market price of the common is equal to its issue price.
 - a 2-for-1 split of the common shares.
 - the payment of a previously declared cash dividend on the common shares.
- *51. A "gain" on the sale of treasury shares should be credited to
- contributed surplus.
 - the share capital account.
 - retained earnings.
 - other income.
- *52. Gupta Corp. purchased its own shares on January 1, 2012 for \$20,000 and debited Treasury Shares for the purchase price. The shares were subsequently sold for \$12,000. The \$8,000 difference between the cost and sales price should be recorded as a debit to
- Contributed Surplus to the extent that previous net "gains" from sales or retirements of the same class of shares are included therein; otherwise, to retained earnings.
 - Contributed Surplus regardless of whether there have been previous net "gains" from sales or retirements of the same class of shares included therein.
 - Retained Earnings.
 - Loss from Sale of Treasury Shares.
- *53. An acceptable method of reporting Treasury Shares in the balance sheet is
- as a contra to contributed surplus.
 - as a contra to the share capital account.
 - as an account with a debit balance after retained earnings.
 - as a current asset.
- *54. Common shares issued would exceed common shares outstanding as a result of the
- declaration of a cash dividend.
 - declaration of a stock dividend.
 - purchase of treasury shares.
 - payment in full of subscribed shares.
- *55. For a two-year period following a properly implemented financial reorganization, Grant Corporation operated profitably and paid dividends equal to 10% of its net income in each year. How could one determine that the financial reorganization had occurred?
- Could not unless comparative balance sheets were presented.
 - From the shareholders' equity section.
 - By the conservative dividend policy.
 - From the disclosure of the reorganization in the notes to the financial statements.

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- *56. Immediately after a financial reorganization, the retained earnings account
- has a zero balance.
 - remains the same as it was before the financial reorganization.
 - is frozen and dated, and subsequent transactions will be shown separately.
 - has a debit balance equal to the write-down of the assets which were overstated.
- *57. Which of the following statements is *false* concerning the requirements that must be fulfilled under a financial reorganization?
- The corporation's shareholders must approve the financial reorganization.
 - Immediately after the financial reorganization, the corporation must have a credit balance in retained earnings.
 - New asset valuations should not deliberately over- or understate assets or liabilities.
 - The corporation may have additional contributed surplus arising from the financial reorganization.
- *58. Which of the following statements is correct?
- IFRS gives specific guidance for reacquisition of shares.
 - IFRS does not give explicit guidance for accounting for financial reorganizations.
 - IFRS requires that changes in retained earnings are presented in a retained earnings statement, and that changes in capital accounts are given in the notes.
 - PE GAAP does not give guidelines for accounting for financial reorganizations.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | d | 11. | c | 21. | b | 31. | b | 41. | a | *51. | a |
| 2. | c | 12. | d | 22. | c | 32. | b | 42. | c | *52. | a |
| 3. | b | 13. | d | 23. | b | 33. | d | 43. | c | *53. | c |
| 4. | a | 14. | b | 24. | d | 34. | a | 44. | b | *54. | c |
| 5. | d | 15. | a | 25. | b | 35. | b | 45. | d | *55. | d |
| 6. | b | 16. | c | 26. | c | 36. | c | 46. | c | *56. | a |
| 7. | c | 17. | d | 27. | a | 37. | b | 47. | b | *57. | b |
| 8. | b | 18. | c | 28. | c | 38. | a | 48. | c | *58. | b |
| 9. | c | 19. | b | 29. | d | 39. | b | 49. | b | | |
| 10. | b | 20. | c | 30. | a | 40. | b | 50. | d | | |

MULTIPLE CHOICE—Computational

59. London Corporation was organized on January 1, 2012, with 400,000 no par value common shares authorized. During 2012, the corporation had the following share transactions:

| | |
|---------|--|
| Jan 5 | Issued 150,000 shares at \$10 per share |
| April 6 | Issued 50,000 shares at \$12 per share |
| June 8 | Issued 50,000 shares at \$14 per share |
| July 28 | Purchased 20,000 shares at \$11 per share and cancelled them |
| Dec 31 | Issued 20,000 shares at \$18 per share |

What is the total amount of contributed surplus at December 31, 2012?

- a. \$ 0.
b. \$ 4,000.
c. \$ 20,000.
d. \$220,000.
60. Nunavut Corporation was organized on January 1, 2012, with the following authorized share capital:
- 20,000 common shares, no par value.
 - 6,000, \$.05, cumulative preferred shares, no par value.

During 2012, the corporation issued 10,000 common shares for \$350,000 and 5,000 preferred shares at \$24 per share. On December 20, 2012, subscriptions for 1,000 preferred shares were taken at a purchase price of \$30. These subscribed shares were paid for on January 2, 2013. What should Nunavut report as total contributed capital on its December 31, 2012, balance sheet?

- a. \$440,000.
b. \$450,000.
c. \$470,000.
d. \$500,000.

Use the following information to answer questions 61 and 62.

Digby Ltd. was organized on January 1, 2012, with 300,000 no par value common shares authorized. During 2012, the corporation had the following share transactions:

| | |
|---------|---|
| Jan 4 | Issued 120,000 shares at \$10 per share. |
| Mar. 8 | Issued 40,000 shares at \$11 per share. |
| May 17 | Purchased 15,000 shares at \$12 per share and cancelled them. |
| July 6 | Issued 30,000 shares at \$13 per share. |
| Aug. 27 | Issued 10,000 shares at \$14 per share. |

61. The total amount in the Common Shares account at December 31, 2012 is
- a. \$2,170,000.
b. \$2,016,250.
c. \$2,007,250.
d. \$1,990,000.

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62. The total amount of contributed surplus at December 31, 2012 is
- \$ 0.
 - \$ 26,250.
 - \$153,750.
 - \$180,000.

Use the following information to answer questions 63 and 64.

Lockness Corp. is authorized to issue 400,000 no par value common shares. Subscribers agree to purchase shares at \$15 per share with a 30% down payment.

63. Assume that subscribers agree to purchase 100,000 shares and make the required down payment. The journal entry to record receipt of the subscriptions includes a
- debit to Common Shares Subscribed for \$1,500,000.
 - credit to Common Shares Subscribed for \$1,500,000.
 - credit to Common Shares for \$450,000.
 - credit to Subscriptions Receivable for \$1,050,000.
64. The journal entry to record the issuance of the shares upon receipt of the final instalment includes a
- debit to Common Shares Subscribed for \$1,500,000.
 - credit to Common Shares for \$1,050,000.
 - credit to Common Shares for \$450,000.
 - debit to Subscriptions Receivable for \$1,050,000.

Use the following information for questions 65 and 66.

Presented below is information related to Olive Oyl Corporation:

| | |
|---|------------|
| Subscriptions Receivable, Common Shares | \$ 120,000 |
| Common Shares, no par | 3,810,000 |
| Common Shares Subscribed | 240,000 |
| \$4 Preferred Shares | 1,440,000 |
| Retained Earnings | 900,000 |

65. The total shareholders' equity of Olive Oyl Corporation is
- \$6,270,000.
 - \$6,300,000.
 - \$6,390,000.
 - \$6,510,000.
66. The total amount that will be added to the Common Shares account when the final subscriptions are received will be
- \$120,000.
 - \$240,000.
 - \$360,000.
 - cannot be determined from the information given.

67. Scrooge Ltd owns 300,000 shares of Marley Ltd common shares, which are being accounting for by the equity method. On December 15, 2011, when Scrooge's "Investment in Common Shares of Marley Ltd" account has a carrying value of \$5 per share, Scrooge declares all these shares to its shareholders as a property dividend, to be distributed on December 31, 2011. Scrooge had originally paid \$8 for each share. Marley has 1,000,000 shares issued and outstanding, for which the quoted market price was \$7 per share on the declaration date and \$9 per share on the distribution date. Ignoring income taxes, what would be the reduction in Scrooge's shareholders' equity as a result of the above transactions?
- \$1,200,000.
 - \$1,500,000.
 - \$2,100,000.
 - \$2,700,000.
68. Beaver Corp has 1,000,000 no par common shares authorized, of which 800,000 shares are outstanding. The average carrying value of the shares is \$5 per share. Beaver declared a stock dividend when the market value was \$10 per share, entitling its shareholders to one additional share for each share held. What entry, if any, should Beaver make to record this dividend declaration?
- No entry.
 - | | | |
|---|-----------|-----------|
| Retained Earnings | 4,000,000 | |
| Common Stock Dividend Distributable | | 4,000,000 |
 - | | | |
|---|-----------|-----------|
| Retained Earnings | 8,000,000 | |
| Common Stock Dividend Distributable | | 8,000,000 |
 - | | | |
|---|-----------|-----------|
| Stock Dividend Payable | 8,000,000 | |
| Common Stock Dividend Distributable | | 8,000,000 |
69. On June 30, 2011, when Forte Inc's shares were selling at \$65 per share, its capital accounts were as follows:
- | | |
|--|-------------|
| Common Shares, no par, 40,000 shares issued and outstanding | \$1,600,000 |
| Retained Earnings | 3,200,000 |
- If a 10% stock dividend were declared and distributed, the Common Shares account balance would be
- \$ 260,000.
 - \$1,600,000.
 - \$1,860,000.
 - \$3,200,000.

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70. The shareholders' equity section of Regina Corporation as of December 31, 2011, was:

| | |
|--|------------------|
| Common shares, no par value; authorized 20,000 shares; issued and outstanding 10,000 shares | \$ 50,000 |
| Retained earnings | <u>90,000</u> |
| | <u>\$140,000</u> |

On February 28, 2012, when the market value of Regina's shares was \$6 per share, the board of directors declared a 15% stock dividend, and accordingly 1,500 additional shares were issued. For the two months ended February 28, 2012, Regina reported a net loss of \$20,000.

What amount should Regina report as retained earnings as of February 28, 2012?

- a. \$61,000.
 - b. \$70,000.
 - c. \$79,000.
 - d. \$81,000.
71. Cash dividends declared on the no par value common shares of Sudbury Corp. were as follows:

| | |
|---------------------|-----------|
| 1st quarter of 2012 | \$330,000 |
| 2nd quarter of 2012 | 350,000 |
| 3rd quarter of 2012 | 420,000 |
| 4th quarter of 2012 | 450,000 |

The 4th quarter cash dividend was declared on December 20, 2012, to shareholders of record on December 31, 2012, to be paid on January 9, 2013. In addition, Sudbury declared a 10% common stock dividend on December 1, 2012, when there were 400,000 shares issued and outstanding, and the market value of the common shares was \$16 per share. The shares were issued on December 21, 2012.

What was the effect on Sudbury's shareholders' equity accounts during 2012 as a result of the above transactions?

| | <u>Common Shares</u> | <u>Retained Earnings</u> |
|----|----------------------|--------------------------|
| a. | \$ -0- | \$1,550,000 debit |
| b. | \$540,000 credit | \$1,740,000 debit |
| c. | \$640,000 credit | \$2,190,000 debit |
| d. | \$300,000 credit | \$1,950,000 debit |

72. The shareholders' equity of Abilene Ltd at July 31, 2012 is presented below:

| | |
|--|--------------------|
| Common shares, no par value, authorized 400,000 shares, issued and outstanding 200,000 shares | \$4,160,000 |
| Retained earnings | <u>650,000</u> |
| Total shareholders' equity | <u>\$4,810,000</u> |

On August 1, 2012, the board of directors declared a 15% stock dividend, to be distributed on September 15. The market price of Abilene's common shares was \$35 on August 1 and \$38 on September 15. What is the debit to retained earnings as a result of the declaration and distribution of this stock dividend?

- \$ 600,000.
 - \$ 750,000.
 - \$1,050,000.
 - \$1,140,000.
73. On January 1, 2012, when the market value of their common shares was \$10 per share, Dallas Inc declared a 10% common stock dividend. Shareholders' equity before the stock dividend was declared consisted of:

| | |
|--|--------------------|
| Common shares, no par value, authorized 200,000 shares, issued and outstanding 120,000 shares | \$1,350,000 |
| Retained earnings | <u>700,000</u> |
| Total shareholders' equity | <u>\$2,050,000</u> |

What was the effect on Dallas' retained earnings as a result of the stock dividend?

- \$120,000 decrease.
 - \$200,000 decrease.
 - \$240,000 decrease.
 - \$400,000 decrease.
74. Chester Corp. has 100,000 no par value common shares authorized, issued, and outstanding. All 100,000 shares were issued at \$8 per share. Retained earnings of the company are \$120,000. If 10,000 common shares were reacquired at \$6 and cancelled,
- shareholders' equity would decrease \$80,000.
 - contributed surplus would increase \$20,000.
 - contributed surplus would decrease \$20,000.
 - retained earnings would decrease \$10,000.
75. Ling Corporation has 100,000 no par value common shares authorized, issued and outstanding. All 100,000 shares were issued at \$45 each. Retained earnings are \$250,000. If 2,000 shares were reacquired at \$49 and cancelled, shareholders' equity would decrease by
- \$ 0.
 - \$ 8,000.
 - \$90,000.
 - \$98,000.

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76. On December 31, 2011, Edmonton Ltd. had outstanding 2,000 no par value, \$6, cumulative preferred shares and 30,000 no par value common shares. At this time, dividends in arrears on the preferred shares were \$6,000. Cash dividends declared in 2012 totalled \$30,000. The amounts paid to each class of shares were

| | <u>Preferred Shares</u> | <u>Common Shares</u> |
|----|-------------------------|----------------------|
| a. | \$6,000 | \$24,000 |
| b. | \$12,000 | \$18,000 |
| c. | \$24,000 | \$6,000 |
| d. | \$18,000 | \$12,000 |

Use the following information for questions 77 through 79.

Sackville Ltd. has outstanding 100,000 no par common shares and 20,000 no par, \$0.40, preferred shares issued at \$5 each. The preferred shares are cumulative and non-participating. Dividends have been paid every year except the past two years and the current year.

77. Assuming that \$50,000 will be distributed as a dividend in the current year, how much will the *common* shareholders receive?
- \$24,000.
 - \$26,000.
 - \$34,000.
 - \$42,000.
78. Assuming that \$21,000 will be distributed as a dividend in the current year, how much will the *preferred* shareholders receive?
- \$ 0.
 - \$ 8,000.
 - \$16,000.
 - \$21,000.
79. The Common Shares account currently shows a balance of \$200,000. Assuming that \$61,000 will be distributed as a dividend in the current year, and the preferred shares are *also* fully participating, how much will the *common* shareholders receive?
- \$37,000.
 - \$30,000.
 - \$31,000.
 - \$16,000.
80. Medicine Hat Ltd. currently has outstanding 20,000 no par value common shares with a carrying value of \$200,000, and 10,000 no par value, \$0.60, cumulative, fully participating preferred shares with a carrying value of \$100,000. Dividends on the preferred shares are one year in arrears. Assuming that Medicine Hat wishes to distribute \$54,000 in dividends, the *common* shareholders will receive
- \$12,000.
 - \$22,000.
 - \$32,000.
 - \$42,000.

Use the following information for questions 81 through 83.

Timmins Corp. has outstanding 20,000 no par value, \$0.80, preferred shares and 100,000 no par value common shares. Dividends have been paid every year except last year and the current year. The carrying value of the preferred shares is \$200,000 and of the common shares is \$300,000.

81. If the preferred shares are cumulative and non-participating and \$100,000 is distributed as a dividend, the *common* shareholders will receive
 - a. \$0.
 - b. \$68,000.
 - c. \$84,000.
 - d. \$100,000.

82. If the preferred shares are non-cumulative and fully participating and \$70,000 is distributed as a dividend, the *common* shareholders will receive
 - a. \$0.
 - b. \$42,000.
 - c. \$46,000.
 - d. \$54,000.

83. If the preferred shares are cumulative and fully participating and \$101,000 is distributed as a dividend, the *common* shareholders will receive
 - a. \$0.
 - b. \$51,000.
 - c. \$61,000.
 - d. \$69,000.

84. Basra Ltd. reported net income of \$5,300,000 for 2012, and earnings per share of \$5.00. Included in the net income was \$750,000 of bond interest expense related to its long-term debt. The income tax rate for 2012 was 30%. Dividends paid on preferred shares were \$1,000,000. The payout ratio on common shares was 25%. What were the dividends paid on common shares in 2012?
 - a. \$1,075,000.
 - b. \$1,325,000.
 - c. \$1,206,250.
 - d. \$1,612,500.

85. For calendar 2012, Montserrat Corp. reported net income of \$29,280 and earnings per share of \$2.46. There were 12,000 common shares outstanding during 2012. On Dec 31, 2012, the market price for Montserrat's common shares was \$32. To the nearest whole number, what is Montserrat's price-earnings ratio at Dec 31, 2012?
 - a. 13
 - b. 32
 - c. 375
 - d. 915

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86. Presented below is information reported by Watusi Ltd for their last two fiscal years:

| | December 31, | |
|--|--------------|-----------|
| | 2012 | 2011 |
| Common shares | \$ 75,000 | \$ 60,000 |
| 6% preferred shares | 350,000 | 350,000 |
| Retained earnings (includes net income for current year) | 90,000 | 75,000 |
| Net income for year | 60,000 | 32,000 |

What is Watusi's rate of return on common shareholders' equity for 2012?

- a. 48.8%
- b. 26%
- c. 25%
- d. 22.4%

Use the following information for questions 87 through 89.

The following data are provided:

| | Years ended December 31, | |
|--|-----------------------------|-----------|
| | 2012 | 2011 |
| Cumulative preferred shares, \$5, no par, 4,000 shares issued and outstanding | \$200,000 | \$200,000 |
| Common shares, no par, 24,000 shares outstanding | 400,000 | 310,000 |
| Retained earnings (post closing) | 480,000 | 430,000 |
| Net income | 180,000 | |

Additional information:

On May 1, 2012, 6,000 common shares were issued. Although dividends had been declared regularly up to December 31, 2011, preferred dividends were *not* declared during 2012. The market price of the common shares was \$100 at December 31, 2012.

87. The rate of return on common shareholders' equity for 2012 is
- a. 23%.
 - b. 22%.
 - c. 20%.
 - d. 18%.
88. The price-earnings ratio for 2012 is
- a. 12.22.
 - b. 13.76.
 - c. 14.99.
 - d. 15.55.
89. The book value per common share at December 31, 2012 is
- a. \$16.67.
 - b. \$18.18.
 - c. \$27.50.
 - d. \$35.83.

*90. Alisha Corporation's shareholders' equity section at December 31, 2011 was:

| | |
|--|---------------------|
| Common shares, \$5 par value, authorized 1,200,000 shares; issued 900,000 shares; outstanding 800,000 shares; | \$ 4,500,000 |
| Contributed surplus | 3,250,000 |
| Retained earnings | <u>5,240,000</u> |
| | 12,990,000 |
| Less treasury shares, at cost, 100,000 shares | <u>800,000</u> |
| Total shareholders' equity | <u>\$12,190,000</u> |

During 2012, Alisha sold 60,000 treasury shares at \$10 per share. No other similar transactions occurred during 2012. What amount should be reported for this transaction on the 2012 income statement?

- \$0.
- \$120,000 gain from sale.
- \$120,000 comprehensive income.
- \$40,000 gain from sale and \$80,000 contributed surplus.

*91. Huang Corp. was organized on January 1, 2012, with 100,000 common shares, par value \$20, authorized. On January 2, the corporation issued 15,000 of these shares for \$390,000 cash. The entry to record this sale would be

| | | |
|---------------------------|---------|---------|
| a. Cash | 390,000 | |
| Common Shares | | 390,000 |
| b. Cash | 390,000 | |
| Common Shares | | 300,000 |
| Retained Earnings | | 90,000 |
| c. Cash | 390,000 | |
| Common Shares | | 300,000 |
| Contributed Surplus | | 90,000 |
| d. Cash | 300,000 | |
| Contributed Surplus | 90,000 | |
| Common Shares | | 390,000 |

*92. Jetty Corp. was organized on January 1, 2012, with 50,000 common shares, par value \$15, authorized, and immediately sold 10,000 shares for \$20 each. Later, they bought back 1,000 of these shares at \$23 each and cancelled them. The entry to record the purchase would be

| | | |
|---------------------------|--------|--------|
| a. Common Shares | 23,000 | |
| Cash | | 23,000 |
| b. Common Shares | 15,000 | |
| Retained Earnings | 8,000 | |
| Cash | | 23,000 |
| c. Common Shares | 20,000 | |
| Contributed Surplus | 3,000 | |
| Cash | | 23,000 |
| d. Common Shares | 15,000 | |
| Contributed Surplus | 8,000 | |
| Cash | | 23,000 |

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Use the following information for questions *93 and *94.

When Davinder Ltd was organized last year, they issued 100,000 no par common shares for \$1,200,000. Earlier this year, the corporation purchased 4,000 of these shares at \$15 per share, to be held in the treasury, and three months later, sold 2,000 treasury shares at \$19 per share. There were no other treasury share transactions.

- *93. To record the sale of the 2,000 treasury shares, Davinder should credit
- Treasury Shares for \$38,000.
 - Treasury Shares for \$20,000 and Contributed Surplus for \$18,000.
 - Treasury Shares for \$30,000 and Contributed Surplus for \$8,000.
 - Treasury Shares for \$30,000 and Retained Earnings for \$8,000.
- *94. If, instead of holding the 4,000 shares as treasury shares, Davinder had decided to cancel them, Davinder should debit
- Common Shares for \$48,000 and Retained Earnings for \$12,000.
 - Contributed Surplus for \$48,000 and Retained Earnings for \$12,000.
 - Contributed Surplus for \$60,000.
 - Common Shares for \$60,000.
- *95. Caan Corporation has 50,000 no par value common shares authorized, issued and outstanding. All 50,000 shares were issued at \$45 per share. Retained earnings of the company are \$40,000. If 3,000 of these shares were reacquired at \$54 and they were held as treasury shares,
- shareholders' equity would increase \$162,000.
 - contributed surplus would decrease by at least \$27,000.
 - shareholders' equity would decrease \$162,000.
 - common shares would increase \$162,000.
- *96. On December 1, 2012, James Ltd exchanged 10,000 of its no par value common shares (being held in the treasury) for a used machine. The treasury shares were acquired by James at a cost of \$40 per share. On the date of the exchange, the common shares had a market value of \$55 per share (the shares were originally issued at \$30 per share). As a result of this exchange, James's total shareholders' equity will increase by
- \$100,000.
 - \$400,000.
 - \$450,000.
 - \$550,000.

Use the following information for questions *97 and *98.

Galba Corp.'s shareholders' equity at January 1, 2012 was:

| | |
|--|--------------------|
| Common shares, no par value; authorized 200,000 shares; outstanding 75,000 shares | \$ 1,050,000 |
| Retained earnings | <u>730,000</u> |
| Total | <u>\$1,780,000</u> |

During 2012, Galba had the following share transactions:

Acquired 2,000 treasury shares for \$90,000.

Sold 1,200 treasury shares at \$50 a share.

Retired the remaining treasury shares.

No other share transactions occurred during 2012.

- *97. The total contributed surplus at December 31, 2012 is
- \$24,800.
 - \$11,200.
 - \$ 6,000.
 - \$ 0.
- *98. Instead, assume Galba cancelled the 2,000 shares when it acquired them for \$90,000. The journal entry to record the retirement would be
- Dr. Common Shares, \$90,000; Cr. Cash, \$90,000.
 - Dr. Treasury Shares, \$90,000; Cr. Cash, \$90,000.
 - Dr. Common Shares, \$28,000; Dr. Contributed Surplus, \$62,000; Cr. Cash, \$90,000.
 - Dr. Common Shares, \$28,000; Dr. Retained Earnings, \$62,000; Cr. Cash, \$90,000.

Use the following information for questions *99 and *100:

At December 31, 2011, the balance in Pang Ltd's retained earnings account was \$420,000. During 2012, Pang had the following transactions:

- Acquired 5,000 treasury shares at \$27 a share. The shares are no par and had originally been issued for \$24 per share. There had been no previous treasury shares transactions.
- Sold the 5,000 treasury shares at \$32 a share.
- Reported net income of \$150,000.

- *99. The balance in retained earnings at December 31, 2012 would be
- \$555,000.
 - \$570,000.
 - \$585,000.
 - \$610,000.
- *100. Instead, assume Pang cancelled the 5,000 shares when it acquired them. The balance in retained earnings at December 31, 2012 would then be
- \$555,000.
 - \$570,000.
 - \$585,000.
 - \$610,000.

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*101. The shareholders' equity section of Arrow Corporation at December 31, 2011 was:

| | |
|--|--------------------|
| Common shares, no par value; authorized 75,000 shares issued and outstanding, 45,000 shares | \$ 1,150,000 |
| Retained earnings | <u>500,000</u> |
| | <u>\$1,650,000</u> |

During 2012, the following transactions occurred relating to shareholders' equity:

- 2,000 treasury shares were acquired at \$28 per share.
- 2,000 more treasury shares were acquired at \$35 per share.
- 1,200 treasury shares were sold at \$30 per share.

Arrow uses FIFO to account for sales of treasury shares.

For the year ended December 31, 2012, Arrow reported net income of \$450,000. What amount should be reported as total shareholders' equity on its December 31, 2012, balance sheet?

- a. \$2,010,000.
 - b. \$2,007,600.
 - c. \$2,044,000.
 - d. \$1,560,000.
- *102. At December 31, 2011, the balance of Manchester Ltd's retained earnings account was \$450,000. During 2012, the company had the following transactions:
- 1. Acquired 5,000 treasury shares at \$70 per share. The shares are no par value and had originally been issued for \$65 per share. There had been no previous treasury shares transactions.
 - 2. Net income for 2012 was \$400,000.
 - 3. Sold the 5,000 treasury shares at \$80 per share.
- What is the balance in retained earnings at December 31, 2012?
- a. \$900,000.
 - b. \$850,000.
 - c. \$775,000.
 - d. \$762,500.
- *103. On January 1, 2012, Red Cat Corporation had 110,000 no par value common shares outstanding, which had been issued at \$5 each. On June 1, the corporation acquired 10,000 shares to be held in the treasury. On December 1, when the market price of the shares was \$8, the corporation declared a 10% stock dividend to be issued to shareholders of record on December 16. What was the impact of the 10% stock dividend on the retained earnings account?
- a. \$50,000 decrease.
 - b. \$80,000 decrease.
 - c. \$88,000 decrease.
 - d. No effect.

Use the following information for questions *104 through *106.

The balances in Babar Inc's shareholders' equity accounts at December 31, 2012 are:

| | |
|--|-------------|
| Common shares, no par, 50,000 authorized, 40,000 outstanding | \$1,300,000 |
| Retained earnings (deficit) | (364,000) |

At this, time, a financial reorganization was approved. Equipment was written down \$101,800, and inventory increased \$5,800.

- *104. As the first step of the reorganization, how much should the Common Shares account be adjusted by?
- \$364,000.
 - \$400,000.
 - \$460,000.
 - \$1,000,000.
- *105. What is the net increase in the deficit from revaluation of assets?
- \$ 0.
 - \$96,000.
 - \$101,800.
 - \$107,600.
- *106. What will the balance in retained earnings be after the reorganization?
- \$936,000.
 - \$(460,000).
 - \$(268,000).
 - \$ 0.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|-------|------|
| 59. | b | 66. | b | 73. | a | 80. | c | 87. | c | *94. | a | *101. | a |
| 60. | c | 67. | b | 74. | b | 81. | b | 88. | b | *95. | c | *102. | b |
| 61. | b | 68. | c | 75. | d | 82. | b | 89. | d | *96. | d | *103. | b |
| 62. | a | 69. | c | 76. | d | 83. | b | *90. | a | *97. | c | *104. | a |
| 63. | b | 70. | a | 77. | b | 84. | a | *91. | c | *98. | d | *105. | b |
| 64. | a | 71. | c | 78. | d | 85. | a | *92. | d | *99. | b | *106. | d |
| 65. | a | 72. | c | 79. | b | 86. | b | *93. | c | *100 | a | | |

MULTIPLE CHOICE—CPA Adapted

107. Aye Corp was organized in January 2012 with authorized capital of 1,000,000 no par value common shares. On February 1, 2012, shares were issued at \$10 per share. On March 1, 2012, the corporation's lawyer accepted 7,000 common shares with a fair value of \$85,000 in settlement for legal services. Total shareholders' equity would increase on

| | <u>February 1, 2012</u> | <u>March 1, 2012</u> |
|----|-------------------------|----------------------|
| a. | Yes | No |
| b. | Yes | Yes |
| c. | No | No |
| d. | No | Yes |

108. The December 31, 2011 condensed balance sheet of Bee Services, a proprietorship, follows:

| | |
|-------------------------------------|------------------|
| Current assets | \$140,000 |
| Property, plant and equipment (net) | <u>130,000</u> |
| | <u>\$270,000</u> |
| Liabilities | \$ 70,000 |
| Betty Bee, Capital | <u>200,000</u> |
| | <u>\$270,000</u> |

Fair values at December 31, 2011, are as follows:

| | |
|----------------|-----------|
| Current assets | \$160,000 |
| Equipment | 210,000 |
| Liabilities | 70,000 |

On January 1, 2012, Bee Services was incorporated as Bee-Line Ltd, with 10,000 no par value common shares issued. How much should be credited to Common Shares?

- a. \$370,000.
 b. \$300,000.
 c. \$270,000.
 d. \$200,000.
109. On July 1, 2012, Marigold Corp. issued 1,000 of its no par common shares and 2,000 of its no par preferred shares for a lump sum of \$50,000. At this date Marigold's common shares were selling for \$24 per share and their preferred shares for \$18 per share. Using the relative fair value method, the amount of the proceeds allocated to the preferred shares account should be
- a. \$25,000.
 b. \$27,500.
 c. \$30,000.
 d. \$36,000.

110. On December 1, 2011, Harinder Ltd agreed to sell 40,000 of their no par common shares on a subscription basis. On that day, 25% of the subscription price was collected as a down payment, with the remaining 75% due in 2012. On the December 31, 2011 balance sheet, the shareholders' equity section would report
- common shares issued for 25% of the subscription price.
 - common shares issued for 100% of the subscription price less a subscription receivable for 75% of the subscription price.
 - common shares subscribed for 75% of the subscription price.
 - common shares subscribed for 100% of the subscription price less a subscription receivable for 100% of the subscription price
111. Rossland Ltd. was organized on January 2, 2012, with 100,000 no par value common shares authorized. During 2012, Rossland had the following capital transactions:
- | | |
|---------|---|
| Jan 5 | Issued 75,000 shares at \$14 per share. |
| July 27 | Purchased and retired 5,000 shares at \$11 per share. |
| Nov 25 | Issued 4,000 shares at \$13 per share. |
- What would be the balance in the Contributed Surplus account at December 31, 2012?
- \$ 0.
 - \$10,000.
 - \$15,000.
 - \$55,000.
112. The dollar amount of a cash dividend to be paid is determined on the date of
- record.
 - declaration.
 - declaration or date of record, whichever is earlier.
 - payment.
113. At December 31, 2011 and 2012, Mariah Corp. had outstanding 3,000 no par value, \$8, cumulative preferred shares and 10,000 no par value common shares. At December 31, 2011, dividends in arrears on the preferred shares were \$12,000. Cash dividends declared in 2012 totalled \$45,000. What amounts were payable on each class of shares?
- | | <u>Preferred Shares</u> | <u>Common Shares</u> |
|----|-------------------------|----------------------|
| a. | \$24,000 | \$21,000 |
| b. | \$33,000 | \$12,000 |
| c. | \$36,000 | \$9,000 |
| d. | \$45,000 | \$0 |
114. An investment in marketable securities was distributed to shareholders as a property dividend. The dividend should be recorded at the
- fair value of the asset transferred or the recorded amount of the asset transferred, whichever is higher.
 - fair value of the asset transferred or the recorded amount of the asset transferred, whichever is lower.
 - fair value of the asset transferred.
 - recorded amount of the asset transferred.

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115. Emily Corp. owned shares in Carr Ltd. On December 1, 2012, Emily declared and distributed a property dividend of Carr shares when their fair value exceeded the carrying amount. As a consequence of the dividend declaration and distribution, the accounting effects would be

| | <u>Property Dividends Recorded At</u> | <u>Retained Earnings</u> |
|----|---|--------------------------|
| a. | Fair value | Decreased |
| b. | Fair value | Increased |
| c. | Cost | Increased |
| d. | Cost | Decreased |

116. Earl Corp. owned 20,000 shares of Baron Corp. purchased in 2006 for \$300,000. On December 15, 2012, Earl declared a property dividend of all of its Baron Corp. shares. The property dividend was distributed on January 15, 2013. On the declaration date, the fair value of Earl's investment in Baron was \$400,000. The entry to record the declaration of the dividend would include a debit to Retained Earnings of

- a. \$ 0.
- b. \$100,000.
- c. \$300,000.
- d. \$400,000.

117. A corporation declared a dividend, a portion of which was liquidating. How would this distribution affect each of the following?

| | <u>Contributed Surplus</u> | <u>Retained Earnings</u> |
|----|--------------------------------|--------------------------|
| a. | Decrease | No effect |
| b. | Decrease | Decrease |
| c. | No effect | Decrease |
| d. | No effect | No effect |

118. How would the declaration of a 15% stock dividend affect each of the following?

| | <u>Retained Earnings</u> | <u>Total Shareholders' Equity</u> |
|----|--------------------------|---------------------------------------|
| a. | No effect | No effect |
| b. | No effect | Decrease |
| c. | Decrease | No effect |
| d. | Decrease | Decrease |

119. On May 1, 2012, when the fair value of Lavender Ltd's common shares was \$20 per share, Lavender had 100,000 no par value common shares issued and outstanding. On this day, Lavender declared and issued a 15% common stock dividend. As a result of this stock dividend, Lavender's total shareholders' equity

- a. increased by \$300,000.
- b. decreased by \$300,000.
- c. decreased by \$15,000.
- d. did not change.

120. How would total shareholders' equity be affected by the declaration of each of the following?

| | <u>Stock dividend</u> | <u>Stock split</u> |
|----|-----------------------|--------------------|
| a. | No effect | Increase |
| b. | Decrease | Decrease |
| c. | Decrease | No effect |
| d. | No effect | No effect |

121. On December 31, 2011, the shareholders' equity section of Avril Inc was as follows:

| | |
|---|------------------|
| Common shares, no par value; authorized 30,000 shares; issued and outstanding 9,000 shares | \$206,000 |
| Retained earnings | <u>261,000</u> |
| Total shareholders' equity | <u>\$467,000</u> |

On March 31, 2012, when the fair market value of Avril's shares was \$27 per share, the corporation declared a 10% stock dividend, and accordingly 900 additional shares were issued. For the three months ended March 31, 2012, Avril reported a net loss of \$48,000. The balance of Avril's retained earnings at March 31, 2012, should be

- a. \$188,700.
b. \$199,500.
c. \$202,200.
d. \$213,000.
- *122. In 2011, Canberra Corp. acquired 9,000 of its own no par value common shares at \$18 per share, to be held in the treasury. In 2012, Canberra sold 6,000 of these shares at \$25 per share. What accounts and what amounts should Canberra credit in 2012 to record this sale?

| | <u>Treasury Shares</u> | <u>Contributed Surplus</u> | <u>Retained Earnings</u> | <u>Common Shares</u> |
|----|----------------------------|--------------------------------|------------------------------|--------------------------|
| a. | \$108,000 | | \$42,000 | |
| b. | \$108,000 | \$ 42,000 | | |
| c. | | \$108,000 | | \$42,000 |
| d. | | | \$42,000 | \$108,000 |

- *123. At its date of incorporation, Jerome Inc. sold 100,000 of its \$10 par common shares at \$11 per share. During the current year, Jerome acquired 20,000 of its common shares at \$16 per share to hold as treasury shares. Subsequently, these shares were sold at \$12 per share. Jerome has had no other sales or acquisitions of its common shares. What effect does the sale of the treasury shares have on the following accounts?

| | <u>Retained Earnings</u> | <u>Contributed Surplus</u> |
|----|--------------------------|----------------------------|
| a. | Decrease | Decrease |
| b. | No effect | Decrease |
| c. | Decrease | No effect |
| d. | No effect | No effect |

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*124. The reacquisition of issued and outstanding shares will cause the number of shares outstanding to decrease if they are accounted for

As Treasury Shares By Retirement

- | | | |
|----|-----|-----|
| a. | Yes | No |
| b. | No | No |
| c. | Yes | Yes |
| d. | No | Yes |

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 107. | b | 110. | d | 113. | c | 116. | d | 119. | d | *122 | b |
| 108. | b | 111. | c | 114. | c | 117. | b | 120. | d | *123 | c |
| 109. | c | 112. | a | 115. | a | 118. | c | 121. | a | *124 | c |

DERIVATIONS — Computational

| No. | Answer | Derivation |
|-----|--------|---|
| 59. | b | $(150,000 \times \$10) + (50,000 \times \$12) + (50,000 \times \$14) = \$2,800,000.$ $\$2,800,000 \div 250,000 = \$11.20; \$11.20 \times 20,000 = \$224,000.$ $\$11.00 \times 20,000 = \$220,000; \$224,000 - \$220,000 = \$4,000.$ |
| 60. | c | $\$350,000 + (5,000 \times \$24) = \$470,000.$ (The Subscriptions Receivable and Common Shares Subscribed accounts should preferably both be in contributed capital, so they would cancel each other out) |
| 61. | b | $[(120,000 \times \$10) + (40,000 \times \$11)] \div 160,000 = \$10.25.$ $(120,000 \times \$10) + (40,000 \times \$11) - (15,000 \times \$10.25) + (30,000 \times \$13) + (10,000 \times \$14) = \$2,016,250.$ |
| 62. | a | \$-0. Paid more than carrying value of the shares. |
| 63. | b | $100,000 \times \$15 = \$1,500,000.$ |
| 64. | a | $100,000 \times \$15 = \$1,500,000.$ |
| 65. | a | $\$3,810,000 + \$240,000 + \$1,440,000 + \$900,000 - \$120,000 = \$6,270,000.$ |
| 66. | b | \$240,000, the subscription price. |
| 67. | b | $(300,000 \times \$7) - [300,000 \times (\$7 - \$5)]$ gain on appreciation = \$1,500,000. |
| 68. | c | $800,000 \times \$10 = \$8,000,000.$ |
| 69. | c | $\$1,600,000 + (40,000 \times 10\% \times \$65) = \$1,860,000.$ |
| 70. | a | $\$90,000 - \$20,000 - (1,500 \times \$6) = \$61,000.$ |
| 71. | c | $400,000 \times 10\% \times \$16 = \$640,000$ Cr. (common shares, i.e. stock dividend) $\$330,000 + \$350,000 + \$420,000 + \$450,000 + \$640,000$ $= \$2,190,000$ Dr. (retained earnings). |
| 72. | c | $200,000 \times 15\% \times \$35 = \$1,050,000.$ |
| 73. | a | $120,000 \times 10\% \times \$10 = \$120,000.$ |
| 74. | b | $10,000 \times (\$8 - \$6) = \$20,000.$ |
| 75. | d | $2,000 \times \$49 = \$98,000.$ |
| 76. | d | $\$6,000 + (2,000 \times \$6) = \$18,000$ (preferred shares). $\$30,000 - \$18,000 = \$12,000$ (common shares). |

No. Answer Derivation

77. b $\$50,000 - (20,000 \times \$0.40 \times 3) = \$26,000.$

78. d $20,000 \times \$0.40 \times 3 = \$24,000 > \$21,000.$

79. b $8\% \times \$200,000 = \$16,000$ (equivalent dividend)
 $*\frac{2}{3} \times \$21,000 = \underline{\underline{\$14,000}}$ (participation)
\\$30,000

$*20,000 \times \$0.40 \times 3 = \$24,000$ (preferred dividends)
 $\$0.40/\$5 = 8\%$ dividend
 $\$200,000 \times 8\% = \$16,000$ (equivalent common dividend)
 Balance left = $\$61,000 - \$24,000 - \$16,000 = \$21,000$
 Shared $\$200,000:\$100,000$ C:P i.e. 2:1

80. c Common Shares
 $\$200,000 \times 6\% = \$12,000$ (current year)
 $\$200,000 \times 10\%^* = \underline{\underline{\$20,000}}$ (participating)
\\$32,000
 $*\$54,000 - \$12,000 - (10,000 \times \$0.60 \times 2) = \$30,000$
 $\frac{\$30,000}{\$300,000} = 10\%.$

81. b $\$100,000 - (20,000 \times \$0.80 \times 2) = \$68,000.$

82. b Common Shares
 $\$300,000 \times 8\% = \$24,000$ (current year)
 $\$300,000 \times 6\%^* = \underline{\underline{\$18,000}}$ (participating)
\\$42,000
 $*\$70,000 - \$24,000 - (20,000 \times \$0.80) = \$30,000$
 $\frac{\$30,000}{\$500,000} = 6\%.$

83. b Common Shares
 $\$300,000 \times 8\% = \$24,000$ (current year)
 $\$300,000 \times 9\%^* = \underline{\underline{\$27,000}}$ (participating)
\\$51,000
 $*\$101,000 - \$24,000 - (20,000 \times .8 \times 2) = \$45,000$
 $\frac{\$45,000}{\$500,000} = 9\%.$

No. Answer Derivation

84. a $\frac{X}{(\$5,300,000 - \$1,000,000)} = .25, X = \$1,075,000.$
85. a $\$32/\$2.46 = 13.$
86. b $\frac{\$60,000 - (.06 \times \$350,000)}{[(\$60,000 + \$75,000) + (\$75,000 + \$90,000)] \div 2} = 26\%$
87. c $\frac{\$180,000 - (4,000 \times \$5)}{[(\$240,000 + \$160,000 + \$480,000 - \$20,000) + (\$180,000 + \$130,000 + \$430,000)] \div 2}$
 $= 20\%$
88. b $\$100 \div \left[\frac{\$180,000 - \$20,000}{18,000 + (6,000 \times 8 \div 12)} \right] = \$100 \div (\$160 \div 22) = 13.76$
89. d $\frac{\$240,000 + \$160,000 + (\$480,000 - \$20,000)}{24,000} = \$860 \div 24 = \35.83
- *90. a $60,000 \times \$2 = \$120,000$, recorded as contributed surplus.
- *91. c Common shares $15,000 \times \$20$ par = \$300,000, bal to contrib surplus.
- *92. d Common shares $1,000 \times \$15$ par = \$15,000; bal to contrib surplus.
- *93. c $2,000 \times \$15 = \$30,000$; $2,000 \times \$4 = \$8,000.$
- *94. a Common shares $4,000 \times \$12 = \$48,000$; Ret Earn $4,000 \times \$3 = \$12,000.$
- *95. c $3,000 \times \$54 = \$162,000.$
- *96. d $10,000 \times \$55 = \$550,000.$
- *97. c $1,200 \times \$5 = \$6,000.$
- *98. d avg issue price $\$1,050,000/75,000 = \14 , Dr C/S $2,000 \times \$14 = \$28,000$
- *99. b $\$420,000 + \$150,000 = \$570,000.$
- *100. a $\$420,000 - (5,000 \times \$3) + \$150,000 = \$555,000.$
- *101. a $\$1,650,000 - (2,000 \times \$28) - (2,000 \times \$35) + (1,200 \times \$30) + \$450,000 =$
 $\$2,010,000.$

| No. | Answer | Derivation |
|-------|--------|---|
| *102. | b | $\$450,000 + \$400,000 = \$850,000.$ |
| *103. | b | $100,000 \times 10\% \times \$8 = \$80,000.$ |
| *104. | a | $\$364,000$, the amount of the deficit. |
| *105. | b | $\$101,800 - \$5,800 = \$96,000.$ |
| *106. | d | RE should always have a \$0 balance after reorganization. |

DERIVATIONS — CPA Adapted

| No. | Answer | Derivation |
|------|--------|--|
| 107. | b | Conceptual. |
| 108. | b | $\$160,000 + \$210,000 - \$70,000 = \$300,000.$ |
| 109. | c | $(\$24 \times 1,000) + (\$18 \times 2,000) = \$60,000.$ $\frac{\$36,000}{\$60,000} \times \$50,000 = \$30,000.$ |
| 110. | d | Conceptual. |
| 111. | c | $5,000 \times \$3 = \$15,000.$ |
| 112. | a | Conceptual. |
| 113. | c | $(3,000 \times \$8) + \$12,000 = \$36,000$ $\$45,000 - \$36,000 = \$9,000.$ |
| 114. | c | Conceptual. |
| 115. | a | Conceptual. |
| 116. | d | $\$400,000$ (market value). |
| 117. | b | Conceptual. |
| 118. | c | Conceptual. |
| 119. | d | Conceptual. |
| 120. | d | Conceptual. |
| 121. | a | $\$261,000 - \$48,000 - (900 \times \$27) = \$188,700.$ |

| No. | Answer | Derivation |
|-------|--------|---|
| *122. | b | $(6,000 \times \$18) = \$108,000$; $(6,000 \times \$7) = \$42,000$. |
| *123. | c | Conceptual. |
| *124. | c | Conceptual. |

Unauthorized

EXERCISES

Ex. 15-125—True or false questions.

Indicate True or False by writing *T* or *F* in the space provided.

- ___ (a) Common Shares Subscribed is a shareholders' equity account.
- ___ (b) A stock split does not require a formal journal entry.
- ___ (c) Bad debt expense is recognized on defaulted subscriptions.
- ___ (d) The date of declaration for a dividend precedes the date of payment, but follows the date of record.
- ___ (e) Retained earnings is one of the three major categories of contributed capital.
- ___ (f) Stock dividends distributable should be classified as current liabilities.
- ___ (g) Stock dividends always involve the transfer of some per-share amount of retained earnings to share capital.
- ___ (h) At one time a nationally known distillery annually distributed a bottle of "its finest" to its shareholders for every 10 shares outstanding; this was a property dividend.

Solution 15-125

- | | | | |
|------|------|------|------|
| a. T | c. F | e. F | g. T |
| b. T | d. F | f. F | h. T |

Ex. 15-126—Lump sum issuance of shares.

Bertram Corp is authorized to issue 15,000 no par value common shares and 5,000 no par value preferred shares. On January 16, 2012, the corporation sold 50 common shares and 60 preferred shares for a lump sum of \$9,000. The common were selling at \$100 and the preferred at \$50.

Instructions

Using the relative fair value method, prepare the entry to record the sale for cash. Show calculations.

Solution 15-126

| | | |
|------------------------|-------|-------|
| Cash | 9,000 | |
| Common Shares | | 5,625 |
| Preferred Shares | | 3,375 |

Calculations:

Common $(\$5,000 \div \$8,000) \times \$9,000 = \$5,625$
 Preferred $(\$3,000 \div \$8,000) \times \$9,000 = \$3,375$

Ex. 15-127—Shareholders' Equity.

Indicate the effect of each of the following transactions on *total* shareholders' equity by placing an "X" in the appropriate column.

| | <u>Increase</u> | <u>Decrease</u> | <u>No Effect</u> |
|---|-----------------|-----------------|------------------|
| 1. Declaration of a cash dividend. | _____ | _____ | _____ |
| 2. Operating loss for the period. | _____ | _____ | _____ |
| 3. Retirement of bonds at more than carrying value. | _____ | _____ | _____ |
| 4. Declaration of a stock dividend. | _____ | _____ | _____ |
| 5. Exchanging common shares for machinery. | _____ | _____ | _____ |
| 6. Conversion of bonds into common shares. | _____ | _____ | _____ |
| 7. Not declaring a dividend on cumulative preferred shares. | _____ | _____ | _____ |
| 8. Payment of a cash dividend. | _____ | _____ | _____ |

Solution 15-127

| | <u>Increase</u> | <u>Decrease</u> | <u>No Effect</u> |
|---|-----------------|-----------------|------------------|
| 1. Declaration of a cash dividend. | _____ | _____ X | _____ |
| 2. Operating loss for the period. | _____ | _____ X | _____ |
| 3. Retirement of bonds at more than carrying value. | _____ | _____ X | _____ |
| 4. Declaration of a stock dividend. | _____ | _____ | _____ X |
| 5. Exchanging common shares for machinery. | _____ X | _____ | _____ |
| 6. Conversion of bonds into common shares. | _____ X | _____ | _____ |
| 7. Not declaring a dividend on cumulative preferred shares. | _____ | _____ | _____ X |
| 8. Payment of a cash dividend. | _____ | _____ | _____ X |

Ex. 15-128—Share subscriptions.

On April 28, 2012, Schooner Inc. accepted subscriptions for 20,000 of its no par value common shares. At this time, the shares were selling for \$45 each. A 40% down payment was received with the remainder due in six months. On October 28, 2012 the balance of the subscription price was received and the shares are issued.

Instructions

- (a) Prepare the journal entries required on April 28, 2012.
- (b) Prepare the journal entries required on October 28, 2012.

Solution 15-128

| | | |
|--|---------|---------|
| (a) Subscriptions Receivable (20,000 x \$45) | 900,000 | |
| Common Shares Subscribed | | 900,000 |
| Cash (\$900,000 x 40%)..... | 360,000 | |
| Subscriptions Receivable | | 360,000 |
| (b) Cash | 540,000 | |
| Subscriptions Receivable | | 540,000 |
| Common Shares Subscribed | 900,000 | |
| Common Shares..... | | 900,000 |

Ex. 15-129—Shares issued in noncash transactions.

What are the different bases for share valuation when assets other than cash are received for issued shares?

Solution 15-129

The general rule to be applied when shares are issued for services or assets other than cash is that the shares be recorded at either their fair value or the fair value of the services or assets, whichever is more clearly determinable. If neither is readily determinable, the value to be assigned is generally established by the board of directors.

Ex. 15-130—Reacquisition of shares.

Alaska Corp. originally sold 1,000,000 of its no par common shares at \$13 a share. Later, Alaska bought 6,000 shares of these shares at \$17 a share. Alaska is incorporated under the CBCA and therefore retired these shares.

Instructions

Record the retirement of the shares.

Solution 15-130

| | | |
|-----------------------------------|--------|---------|
| Common Shares (6,000 x \$13)..... | 78,000 | |
| Retained Earnings | 24,000 | |
| Cash (6,000 x \$17) | | 102,000 |

Ex. 15-131—Reacquisition of shares.

For numerous reasons, a corporation may reacquire its own shares. When a corporation does this, the CBCA requires that the purchased shares be cancelled.

Instructions

Explain how a corporation would account for each of the following:

1. Purchase of shares at a price less than the carrying value of the shares.
2. Purchase of shares at a price greater than the carrying value of the shares.
3. The effect on net income.

Solution 15-131

1. If the acquisition cost is less than the carrying value of the shares, the acquisition cost should be allocated as follows:
 - (a) To share capital, in an amount equal to the par, stated, or average value of the shares;
 - (b) The difference to contributed surplus.
2. If the acquisition cost is greater than the carrying value of the shares, the acquisition cost should be allocated as follows:
 - (a) To share capital, in an amount equal to the par, stated, or average value of the shares;
 - (b) Any excess, to contributed surplus, to the extent that contributed surplus was created by any excess of proceeds over cost on cancellation or resale of shares of the same class;
 - (c) Any excess, to contributed surplus in an amount equal to the pro-rata share of the portion of contributed surplus that arose from transactions, other than those in (b) above, in the same class of shares;
 - (d) Any excess to retained earnings.
3. There is no effect on net income as a result of the reacquisition and cancellation of shares.

Ex. 15-132—Dividend amount determination.

Describe some of the factors that a board of directors may consider when determining the amount of cash dividends to declare.

Solution 15-132

Some factors are:

- a. agreements (bond and loan covenants) with creditors that require the retention of retained earnings.
- b. desire to use profits to reinvest in and expand the business.
- c. desire to have a smooth dividend stream even if income stream is not smooth.
- d. desire to build up a safety margin for losses or errors.
- e. availability of cash to pay the dividend (liquidity).

Ex. 15-133—Items affecting retained earnings.

What are the items that increase or decrease retained earnings?

Solution 15-133

Items that increase retained earnings are net income, prior period adjustments (error corrections), financial reorganization, and certain changes in accounting principle.

Items that decrease retained earnings are net loss, cash, property and most stock dividends, some treasury shares transactions, prior period adjustments (error corrections), and certain changes in accounting principle.

Ex. 15-134—Stock dividends.

Describe the accounting treatment for the declaration of a common stock dividend.

Solution 15-134

If the issuing corporation is incorporated under the CBCA, the declaration would result in the transfer from retained earnings to contributed capital of an amount equal to the market value of each new share issued. Retained Earnings is debited for the total amount transferred; Common Stock Dividend Distributable is credited for the same amount.

If the dividend is less than 20-25%, it is considered a small stock dividend, and would be treated this way. If, however, the stock dividend is greater than 20-25%, it is called a large stock dividend, and if the issuing corporation is not incorporated under the CBCA, it can choose to account for it like a small stock dividend, but measure at either the market value or the par or stated value of the shares, OR it can treat it as a stock split (memo entry only). In the U.S., the SEC supports treating a large stock dividend as a split. In Canada, there is no specific guidance, thus professional judgement must be used, although there may be legal constraints to consider.

Ex. 15-135—Stock dividends and stock splits.

Indicate the principal effects of a stock dividend versus a stock split as they affect the issuing corporation. Respond in the spaces as follows: "C" for change; "NC" for no change.

| | <u>Stock dividend</u> | <u>Stock split</u> |
|-------------------------------------|-----------------------|--------------------|
| Legal Capital | _____ | _____ |
| Number of Shares Outstanding | _____ | _____ |
| Total Shareholders' Equity | _____ | _____ |
| Retained Earnings | _____ | _____ |
| Composition of Shareholders' Equity | _____ | _____ |

Solution 15-135

| | <u>Stock dividend</u> | <u>Stock split</u> |
|-------------------------------------|-----------------------|--------------------|
| Legal Capital | <u>C</u> | <u>NC</u> |
| Number of Shares Outstanding | <u>C</u> | <u>C</u> |
| Total Shareholders' Equity | <u>NC</u> | <u>NC</u> |
| Retained Earnings | <u>C</u> | <u>NC</u> |
| Composition of Shareholders' Equity | <u>C</u> | <u>NC</u> |

Ex. 15-136—Dividends on preferred shares.

On December 31, 2012, the shareholders' equity of Kansas Corporation shows the following:

| | |
|--|--------------------|
| Preferred shares—\$6, no par, 4,000 shares outstanding | \$ 400,000 |
| Common shares—no par, 60,000 shares outstanding | 800,000 |
| Retained earnings | <u>120,000</u> |
| Total shareholders' equity | <u>\$1,320,000</u> |

Assume that all of the company's retained earnings are to be paid out in dividends on December 31, 2012 and that preferred dividends were last paid on December 31, 2010.

Instructions

If the preferred shares are cumulative and fully participating, how much should each class of shares receive?

Solution 15-136

| | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
|---|------------------|-----------------|------------------|
| Dividends in arrears ($\$6 \times 4,000$) | \$24,000 | \$ — | \$ 24,000 |
| Current year's dividends (1:2) | 24,000 | 48,000 | 72,000 |
| Participating dividend (1:2) | <u>8,000</u> | <u>16,000</u> | <u>24,000</u> |
| | <u>\$56,000</u> | <u>\$64,000</u> | <u>\$120,000</u> |

Ex. 15-137—Dividends on preferred shares.

In each of the following independent cases, it is assumed that the corporation has outstanding 20,000, \$0.80, preferred shares, with a carrying value of \$200,000, and 80,000 common shares, with a carrying value of \$800,000. No dividends have been declared for 2010 or 2011.

- At December 31, 2012, the board of directors wants to distribute \$125,000 in dividends. How much will the preferred shareholders receive if their shares are cumulative and nonparticipating?
- At December 31, 2012, the board of directors wants to distribute \$200,000 in dividends. How much will the preferred shareholders receive if their shares are cumulative and participating up to 15% in total?
- On December 31, 2012, the preferred shareholders received an \$80,000 dividend on their shares, which are cumulative and fully participating. How much money was distributed in total for dividends?

Solution 15-137

- (a) \$48,000.
- (b) \$62,000.
- (c) \$272,000 (\$192,000 to common and \$80,000 to preferred).

Ex. 15-138—Dividends on preferred shares.

At December 31, 2012, Rock Inc. has outstanding the following shares:

5,000, \$3.20, no par preferred shares with a carrying value of \$200,000, and
 40,000 no par common shares with a carrying value of \$400,000.

No dividends have been paid since December 31, 2009. The corporation now desires to distribute \$110,000 in dividends.

Instructions

Calculate how much the preferred and common shareholders will receive if the preferred shares are cumulative and fully participating.

Solution 15-138

| | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
|---|------------------|-----------------|------------------|
| Dividends in arrears (5,000 × \$3.20 × 2) | \$32,000 | \$ — | \$ 32,000 |
| Current year's dividends (5,000 × \$3.20) | 16,000 | 32,000 | 48,000 |
| Participating dividend (1:2) | <u>10,000</u> | <u>20,000</u> | <u>30,000</u> |
| | <u>\$58,000</u> | <u>\$52,000</u> | <u>\$110,000</u> |

Ex. 15-139—Dividends on preferred shares.

Graziano Corp. has been authorized to issue 20,000 no par, \$6, cumulative and fully participating preferred shares and 100,000 no par common shares. The account balances at December 31, 2012 are:

| | |
|--|------------|
| \$6 Preferred shares, 4,000 shares outstanding | \$ 400,000 |
| Common shares, 60,000 shares outstanding | 1,600,000 |

No dividends were paid in 2011. The corporation now desires to pay \$280,000 in dividends.

Instructions

Calculate how much the preferred and common shareholders will receive.

Solution 15-139

| | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
|------------------------------------|------------------|------------------|------------------|
| Dividends in arrears (4,000 × \$6) | \$24,000 | \$ — | \$ 24,000 |
| Current year's dividends (1:4) | 24,000 | 96,000 | 120,000 |
| Participating dividend (1:4) | <u>27,200</u> | <u>108,800</u> | <u>136,000</u> |
| | <u>\$75,200</u> | <u>\$204,800</u> | <u>\$280,000</u> |

***Ex. 15-140**—Calculation of selected financial ratios.

Cotton Candy Corp provides the following information for 2012:

| | |
|--|-----------|
| Preferred shares, 8%, par value \$100, cumulative, callable: | |
| Call price per share | \$105 |
| Shares outstanding | 5,000 |
| Dividends in arrears | none |
| Common shares, no par value: | |
| Shares issued | 60,000 |
| Dividends paid per share | \$1.60 |
| Market price per share | \$36.00 |
| Carrying value | \$800,000 |
| Retained earnings (after closing) | \$175,000 |
| Treasury shares (common): | \$260,000 |
| Number of treasury shares held | 5,000 |
| Net income for 2012 | \$260,000 |

Instructions

Calculate the following (assume no changes in share account balances during 2012):

- Total amount of shareholders' equity on the December 31, 2012 balance sheet.
- Earnings per share.
- Price-earnings ratio of common shares.
- Payout ratio of common shares.
- Book value per common share.

*Solution 15-140

- $(5,000 \times \$100) + \$800,000 + \$175,000 - \$125,000 = \$1,350,000.$
- $[\$260,000 - (5,000 \times \$100 \times 8\%)] \div (60,000 - 5,000) = 220,000 \div 55,000 = \4.00 per share.
- $\$36 \div \$4 = 9.$
- $[(\$1.60 \times 55,000) \div (\$260,000 - \$40,000)] = 40\%$ OR dividend per share divided by EPS
 $\$1.60 \div \$4 = 40\%$
- $[(\$1,350,000 - (5,000 \times \$105)) \div (60,000 - 5,000)] = \$825,000 \div 55,000 = \$15$ per share.

***Ex. 15-141**—Lump sum issuance of par value shares.

Cole Corporation issued 2,000 common shares and 400 preferred shares for a lump sum of \$72,000 cash.

Instructions

- (a) Prepare the journal entry for the issuance, assuming the par value of the common was \$5 and the market value \$30, and the par value of the preferred was \$40 and the market value \$50.
- (b) Prepare the journal entry for the issuance, assuming the same facts as (a) above except the preferred shares have no ready market and the common shares have a market value of \$24 per share.

***Solution 15-141**

- (a) Use relative fair value method.

| | | |
|---|-----------------|--------------|
| Cash | 72,000 | |
| Common Shares (2,000 x \$5) | | 10,000 |
| Contributed Surplus—Common (\$54,000 - \$10,000)..... | | 44,000 |
| Preferred Shares (400 x \$40) | | 16,000 |
| Contributed Surplus—Preferred (\$18,000 - \$16,000) | | 2,000 |
| | | |
| common \$30 × 2,000 | \$60,000 | |
| preferred \$50 × 400 | <u>20,000</u> | |
| | <u>\$80,000</u> | market value |
| | | |
| 60/80 × \$72,000 = | \$54,000 | common |
| 20/80 × \$72,000 = | <u>18,000</u> | preferred |
| | <u>\$72,000</u> | |

- (b) Use residual method.

| | | |
|--|--------|--------|
| Cash | 72,000 | |
| Common Shares (2,000 x \$5)..... | | 10,000 |
| Contributed Surplus—Common (\$48,000 - \$10,000) | | 38,000 |
| Preferred Shares (400 x \$40) | | 16,000 |
| Contributed Surplus—Preferred (balance)..... | | 8,000 |

***Ex. 15-142—Treasury shares.**

Sasquatch Corporation's last year-end balance sheet reported the following:

| | |
|---|-----------|
| Common shares, no par, outstanding 5,000 shares | \$115,000 |
| Retained earnings | 200,000 |

The following transactions occurred this year:

- Purchased 70 common shares at \$30 per share, to be held as treasury shares.
- Sold 60 treasury shares at \$32 per share.
- Retired the remaining treasury shares.

Instructions

Prepare the journal entries for these transactions.

***Solution 15-142**

| | | |
|---|-------|-------|
| (a) Treasury Shares (70 x \$30)..... | 2,100 | |
| Cash | | 2,100 |
| (b) Cash (60 x \$32)..... | 1,920 | |
| Treasury Shares (60 x \$30) | | 1,800 |
| Contributed Surplus | | 120 |
| (c) Common Shares 10 x (\$115,000/5,000)..... | 230 | |
| Contributed Surplus..... | 70 | |
| Treasury Shares (10 x \$30)..... | | 300 |

***Ex. 15-143—Treasury shares.**

Zhou Ltd currently has 150,000 no par common shares outstanding, carrying value \$4,050,000.

Instructions

Record the following transactions.

- Purchased 1,500 common shares at \$29 per share, to be held as treasury shares.
- Sold 800 treasury shares at \$30 a share.
- Retired the rest of the treasury shares.

***Solution 15-143**

| | | |
|---|--------|--------|
| (a) Treasury Shares (1,500 x \$29)..... | 43,500 | |
| Cash..... | | 43,500 |
| (b) Cash (800 x \$30)..... | 24,000 | |
| Treasury Shares (800 x \$29) | | 23,200 |
| Contributed Surplus | | 800 |
| (c) Common Shares [(700 x (\$4,050,000/150,000))..... | 18,900 | |
| Contributed Surplus (maximum)..... | 800 | |
| Retained Earnings (difference)..... | 600 | |
| Treasury Shares (700 x \$29) | | 20,300 |

***Ex. 15-144**—Financial reorganization.

The following shareholders' equity accounts are reported by India Inc. at December 31, 2012.

| | |
|--|-----------|
| Common shares, no par, 10,000 shares outstanding | \$720,000 |
| Retained earnings (deficit) | (235,000) |

A financial reorganization was approved. Equipment is to be written down \$58,600, and inventory increased \$4,200.

Instructions

Prepare the required journal entries for the financial reorganization.

***Solution 15-144**

| | | |
|----------------------------------|---------|---------|
| Common Shares | 54,400 | |
| Inventory | 4,200 | |
| Equipment | | 58,600 |
| Common Shares | 235,000 | |
| Retained Earnings (deficit)..... | | 235,000 |

***Ex. 15-145**—Financial reorganization.

Describe the accounting steps involved in a financial reorganization.

***Solution 15-145**

A financial reorganization consists of the following steps:

1. Any asset write-downs or impairments that existed prior to the reorganization should be recorded first.
2. The changes in debt and equity as negotiated are recorded. Often debt is exchanged for equity reflecting a change in control.
3. The assets and liabilities are comprehensively revalued. This step assigns appropriate fair values to all assets and liabilities as per the negotiations. The difference between the carrying values prior to the reorganization and the new values after is known as a revaluation adjustment. The revaluation adjustment and any costs incurred to carry out the financial reorganization are accounted for as capital transactions and are closed to Share Capital, Contributed Surplus or a separately identified account within Shareholders' Equity. The new costs of the identifiable assets and liabilities must not exceed the fair value of the entity if known.
4. The deficit balance (retained earnings) is brought to zero. The deficit is reclassified to Share Capital, Contributed Surplus or a separately identified account within Shareholders' Equity.

PROBLEMS

Pr. 15-146—Issuance of shares for cash, non-cash consideration, and by subscription.

Presented below is information related to Shane Corp:

1. The company is granted a charter that authorizes issuance of 15,000 no par preferred shares and 40,000 no par common shares.
2. 10,000 common shares are issued for land with a fair value of \$300,000.
3. 3,000 preferred shares are sold for cash at \$120 per share.
4. The company issues 100 common shares to its lawyer for costs associated with starting the company. At this time, the common shares were selling at \$60 per share.
5. The company decides to issue shares on a subscription basis giving each subscriber the right to purchase 200 common shares at a price of \$65 per share. Fifty individuals accept the company's offer and agree to pay 10% down and the remainder in three equal instalments.
6. The final instalment payment is received and the shares are issued.

Instructions

Prepare the general journal entries necessary to record these transactions.

Solution 15-146

1. No entry necessary.
2. Land 300,000
 Common Shares 300,000
3. Cash (3,000 x \$120) 360,000
 Preferred Shares 360,000
4. Organization Expense (100 x \$60) 6,000
 Common Shares 6,000
5. Subscriptions Receivable (50 x 200 x \$65) 650,000
 Common Shares Subscribed 650,000
 Cash (10% x \$650,000) 65,000
 Subscriptions Receivable 65,000
6. Cash [(\$650,000 - \$65,000) x 1/3] 195,000
 Subscriptions Receivable 195,000
 Common Shares Subscribed 650,000
 Common Shares 650,000

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Pr. 15-147—Issuance of shares for cash, non-cash consideration, and by subscription.

Instructions

Chan Corp has an unlimited number of no-par common shares authorized. Prepare the journal entries for the following transactions.

1. Sold 600,000 shares at \$10; collected cash in full and issued the shares. Share issue costs amounted to \$61,400. Treat this amount as a reduction in the common shares account.
2. Issued 80,000 shares and paid \$140,000 cash in total payment for a piece of land.
3. Received subscriptions for 40,000 shares at \$18 per share; received 70% of the subscription price in cash.
4. Received the balance of the subscriptions receivable.

Justify and state any assumption(s) you make. Assume all transactions occurred within a short time period.

Solution 15-147

| | | |
|--|-----------|-----------|
| 1. Cash (600,000 x \$10) - \$61,400 | 5,938,600 | |
| Common Shares..... | | 5,938,600 |
| 2. Land..... | 940,000 | |
| Cash..... | | 140,000 |
| Common Shares (80,000 x \$10)..... | | 800,000 |
| Assumption: \$10 per share based on earlier transaction. | | |
| 3. Subscriptions Receivable (40,000 x \$18) | 720,000 | |
| Common Shares Subscribed | | 720,000 |
| Cash (\$720,000 x 70%)..... | 504,000 | |
| Subscriptions Receivable | | 504,000 |
| 4. Cash (\$720,000 x 30%)..... | 216,000 | |
| Subscriptions Receivable | | 216,000 |
| Common Shares Subscribed..... | 720,000 | |
| Common Shares..... | | 720,000 |

Pr. 15-148—Allocation of cash dividends.

Tracey Inc has the following shares outstanding:

| | |
|---|-----------|
| 40,000, \$0.80, no par value preferred shares | \$400,000 |
| 60,000 no par value common shares | \$600,000 |

All shares were sold for \$100 each.

No dividends have been declared since December 31, 2009. It is now December 31, 2012, and the board of directors wants to distribute \$204,000 in dividends.

Instructions

Calculate how much the preferred and common shareholders will receive under each of the following assumptions:

- The preferred is noncumulative and non-participating.
- The preferred is cumulative and non-participating.
- The preferred is cumulative and fully participating.
- The preferred is cumulative and participating to 12% total.

Solution 15-148

| | | | | |
|-----|---|------------------|------------------|------------------|
| (a) | | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
| | Current year's dividend ($\$.80 \times 40,000$) | \$32,000 | \$ — | \$ 32,000 |
| | Remainder to common | | 172,000 | 172,000 |
| | | <u>\$32,000</u> | <u>\$172,000</u> | <u>\$204,000</u> |
| (b) | | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
| | Dividends in arrears, $\$.80 \times 40,000$ for two years | \$64,000 | \$ — | \$ 64,000 |
| | Current year's dividend | 32,000 | — | 32,000 |
| | Remainder to common | | 108,000 | 108,000 |
| | | <u>\$96,000</u> | <u>\$108,000</u> | <u>\$204,000</u> |
| (c) | | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
| | Dividends in arrears, $\$.80 \times 40,000$ for two years | \$ 64,000 | \$ — | \$ 64,000 |
| | Current year's dividend | 32,000 | 48,000 | 80,000 |
| | Participating dividend 6% ($\$60,000 \div \$1,000,000$) | 24,000 | 36,000 | 60,000 |
| | | <u>\$120,000</u> | <u>\$84,000</u> | <u>\$204,000</u> |
| (d) | | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
| | Dividends in arrears, $\$.80 \times 40,000$ for two years | \$ 64,000 | \$ — | \$ 64,000 |
| | Current year's dividend | 32,000 | 48,000 | 80,000 |
| | *Participating dividend (additional 4%) | 16,000 | 24,000 | 40,000 |
| | Remainder to common | — | 20,000 | 20,000 |
| | | <u>\$112,000</u> | <u>\$92,000</u> | <u>\$204,000</u> |

* basic PFD dividend is $\$.80/\$100 = 8\%$

Pr. 15-149—Equity transactions.

Sands Corporation has the following capital structure at the beginning of this year:

| | |
|---|---------------------------|
| Preferred shares, \$3, no par value, cumulative, 20,000 shares authorized, 6,000 shares issued and outstanding | \$ 300,000 |
| Common shares, no par value, 60,000 shares authorized, 40,000 shares issued and outstanding | <u>510,000</u> |
| Total contributed capital | 810,000 |
| Retained earnings | <u>340,000</u> |
| Total shareholders' equity | <u><u>\$1,150,000</u></u> |

Instructions

- (a) Record the following transactions which occurred consecutively this year. Show all calculations.
- There are no dividends in arrears. A total cash dividend of \$90,000 was declared. The preferred shares are participating to a maximum of ten percent. Record dividends payable to common and preferred shares in separate accounts.
 - A 10% common stock dividend was declared. The current market value of the common shares is \$16 a share.
 - Net income for the year was \$180,000. Record the closing entry.
- (b) Incorporating all the above information, construct the shareholders' equity section

Solution 15-149

| (a) | <u>Preferred</u> | <u>Common</u> | <u>Total</u> |
|---|------------------|-----------------|-----------------|
| 1. Current year's dividend, \$3 × 6,000 (1) | \$18,000 | \$30,600(2) | \$48,600 |
| Participating dividend 4% | 12,000 | 20,400 | 32,400 |
| Remainder to common | | <u>9,000</u> | <u>9,000</u> |
| | <u>\$30,000</u> | <u>\$60,000</u> | <u>\$90,000</u> |

(1) basic div is $\$3/\$50 = 6\%$ (2) $6\% \times \$510,000$

| | | |
|--|---------|---------|
| Retained Earnings | 90,000 | |
| Dividends Payable—Common | | 60,000 |
| Dividends Payable—Preferred | | 30,000 |
| | | |
| 2. $40,000 \times 10\% \times \$16 = \$64,000$ | | |
| Retained Earnings | 64,000 | |
| Common Stock Dividend Distributable | | 64,000 |
| | | |
| 3. Income Summary | 180,000 | |
| Retained Earnings | | 180,000 |

Solution 15-149 (cont'd)

| | |
|---|--------------------|
| (b) Shareholders' equity | |
| Preferred shares, \$3, no par value, cumulative, 20,000 shares authorized, 6,000 shares issued and outstanding | \$ 300,000 |
| Common shares, no par value, 60,000 shares authorized, 40,000 shares issued and outstanding | 510,000 |
| Common stock dividend distributable | <u>64,000</u> |
| Total contributed capital | 874,000 |
| Retained earnings* | <u>366,000</u> |
| Total shareholders' equity | <u>\$1,240,000</u> |

$$*\$340,000 - \$90,000 - \$64,000 + \$180,000 = \$366,000$$

Pr. 15-150—Share retirement and stock dividends.

Han Enterprises reported the following shareholder's equity at December 31, 2011.

| | |
|---|-------------|
| Contributed Capital | |
| Preferred shares, \$1, no par value, 100,000 shares authorized, cumulative, callable at \$107 plus dividends in arrears; issued and outstanding, 20,000 shares | \$2,040,000 |
| Common shares, no par, 100,000 shares authorized, 80,000 issued and outstanding | 640,000 |
| Contributed surplus (retirement of common shares)..... | 120,000 |
| Retained earnings..... | 1,600,000 |

The following transactions took place in 2012:

- Jan 20 Redeemed 1,000 preferred shares at the call price. There were no dividends in arrears.
 Jan 28 Declared \$100,000 in dividends. Use separate accounts for each class of dividends.
 Feb 28 Retired 8,000 common shares at \$12 per share.
 Mar 2 Declared and distributed a 3% common stock dividend. The market value of the shares at that time was \$11.50.

Instructions

Prepare journal entries for the 2012 transactions.

Solution 15-150

| | | |
|---|---------|---------|
| Jan 20: | | |
| Preferred shares ($\$2,040,000 \div 20,000$) \times 1,000 | 102,000 | |
| Retained earnings | 5,000 | |
| Cash ($\$107 \times 1,000$) | | 107,000 |
| Jan 28: | | |
| Retained earnings | 100,000 | |
| Preferred dividends payable ($19,000 \times \$1$)..... | | 19,000 |
| Common dividends payable ($\$100,000 - \$19,000$) | | 81,000 |

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Solution 15-150 (cont'd)

Feb 28:

| | | |
|---|--------|--------|
| Common shares (8,000 × (\$640,000 ÷ 80,000)) | 64,000 | |
| Contributed surplus (retirement of common shares) | 32,000 | |
| Cash (8,000 × \$12)..... | | 96,000 |

Mar 2:

| | | |
|---|--------|--------|
| Retained earnings (72,000 × 3% × \$11.50) | 24,840 | |
| Common shares | | 24,840 |

Pr. 15-151—Statement of Shareholders' Equity.

Following is information provided by Goshawk Inc for their last two year ends:

| | balances at Dec 31, 2011 | balances at Dec 31, 2012 |
|--|-----------------------------|-----------------------------|
| Common Shares, no par value | \$300,000 | ?? |
| Common shares sold during year | | \$50,000 |
| Accumulated Other Comprehensive Income | 60,000 | ?? |
| Other Comprehensive Income for year (unrealized holding gain, after tax) | | 30,000 |
| Retained Earnings | 50,000 | ?? |
| Net income for year | | 110,000 |

Instructions

In good format, prepare a Statement of Shareholder's Equity for the year ended December 31, 2012.

Solution 15-151

Goshawk Inc.
Statement of Shareholders' Equity
For the year ended December 31, 2012

| | Common Shares | Comprehensive Income | Retained Earnings | Accumulated Other Comprehensive Income | Total Shareholders' Equity |
|---------------------|---------------|----------------------|-------------------|--|----------------------------|
| Beginning balances | \$300,000 | | \$50,000 | \$60,000 | \$410,000 |
| Common shares sold | 50,000 | | | | 50,000 |
| Net income | | 110,000 | 110,000 | | 110,000 |
| Other compre.income | | 30,000 | | 30,000 | 30,000 |
| Compre. income | | <u>140,000</u> | | | |
| Ending balances | \$350,000 | | \$160,000 | \$90,000 | \$600,000 |

Pr. 15-152—Dividend distribution.

You have recently been appointed CEO of Dumbledore Ltd, a wholesale distributor of magic supplies. One day your CFO reminds you that next week you will have to make recommendations to the board of directors regarding this year's annual dividend. This catches you totally by surprise. Luckily, the CFO was kind enough to provide you with some additional information. He shows you the projected income statement and balance sheet, without the effect of any dividend declaration.

Income Statement:

| | |
|----------------------------------|-------------------|
| Sales | 44,000,000 |
| COGS | <u>29,400,000</u> |
| Gross profit | 14,600,000 |
| Operating expenses | <u>6,000,000</u> |
| Operating income before interest | 8,600,000 |
| Interest expense | <u>1,000,000</u> |
| Income before tax | 7,600,000 |
| Income tax (30%) | <u>2,300,000</u> |
| Net income | <u>5,300,000</u> |

Balance Sheet:**Current Assets**

| | |
|----------------------|------------------|
| Cash | 4,000,000 |
| Accounts receivable | 5,000,000 |
| Inventory | 2,000,000 |
| Other | <u>3,700,000</u> |
| Total Current Assets | 14,700,000 |

| | |
|-----------------------|-----------|
| Long term investments | 7,000,000 |
|-----------------------|-----------|

| | |
|--|-------------------|
| Property, plant and equipment (net) | <u>17,000,000</u> |
| Total Assets | <u>38,700,000</u> |

Current Liabilities

| | |
|---------------------------|------------------|
| Accounts payable | 2,000,000 |
| Accrued liabilities | 3,000,000 |
| Other | <u>4,000,000</u> |
| Total Current Liabilities | 9,000,000 |

| | |
|-------------------------|------------|
| Non-current liabilities | 16,000,000 |
|-------------------------|------------|

Shareholders' Equity

| | |
|---|------------------|
| Common shares | 1,000,000 |
| Contributed surplus | 4,900,000 |
| Retained earnings (includes this year's net income) | <u>7,800,000</u> |
| Total Shareholders' Equity | 13,700,000 |

| | |
|------------------------------|-------------------|
| Total Liabilities and Equity | <u>38,700,000</u> |
|------------------------------|-------------------|

Pr. 15-152 (cont'd)

Other information:

- a) Last year, the net income was \$3,500,000, and \$3,300,000 cash dividends were paid.
- b) Dumbledore has two debt agreements that call for the corporation to maintain at least \$2,500,000 in retained earnings, as well as maintain a debt-to-total-assets ratio of no more than 70%.
- c) There has been no change in the number of shares outstanding during the year.

You start to think about the recommendations you are going to make. It is the end of November, and historically the corporation has declared dividends five days before the end of the year.

Instructions

- 1) What factors will limit the amount to be distributed as dividends?
- 2) What are important considerations in your decision? What would you recommend? Provide any journal entry that is related to your decision.

Solution 15-152

1. You need to ascertain how much can be distributed in dividends. Look at all your constraints.

a) **Retained earnings constraint.** The debt covenant requires that Dumbledore must maintain \$2,500,000 in retained earnings. The balance in retained earnings is currently \$7,800,000, so the maximum dividend is \$5,300,000.

b) **Cash on hand constraint.** As long as you do not decide to borrow additional cash, theoretically you could distribute all your cash on hand, so the dividend would be a maximum of \$4,000,000. However, for practical purposes, the firm must maintain a certain level of cash for its day-to-day operations, so the actual dividend you can pay is lower.

c) **Debt-to-total assets constraint.** You can distribute dividends only to the point that this ratio does not exceed 70%. Currently, the ratio is 64.6% as total debt is \$25,000,000 and total assets are \$38,700,000. You are limited to distributing at most \$3,000,000. This will bring the ratio to $70\% = 25/35.7$.

2. There are many considerations involved in this decision, and there is no single correct answer. Some of the main considerations are:

a) Since Dumbledore distributed \$3,300,000 in dividends last year, a dividend of “only” \$3,000,000 will imply a dividend reduction. Firms are usually reluctant to lower dividends, so distributing \$3,000,000 may not be good for shareholder relations or your image in the marketplace.

b) Even if you are not constrained, you might not want to make the dividend too large. True, this year the firm fared well, but if you distribute all the income as a dividend, and next year’s income is lower, you would have to lower your dividend, which again is not desirable.

Solution 15-152 (cont'd)

c) Another reason to not distribute a high dividend is that it might suggest the firm does not have future growth opportunities. A business should limit dividends, if the retained capital can be invested in projects with high returns. If the business does not have such projects, it is better off to distribute the earnings. If the business still has good investment opportunities, then you do not want to send the wrong message.

d) Last year's payout ratio was very high - 94.3% (3.3/3.5). However, maintaining a high payout ratio might create the problems already mentioned.

e) You need to make sure that after you distribute cash dividends, enough resources are available to pay current liabilities. Current ratio excluding cash = $10,400,000/9,000,000 = 1.16$, so the firm does seem to be able to meet its short-term obligations even if it distributes all its cash.

f) Another solution would be to distribute a cash dividend of \$3,000,000 and then a stock dividend (e.g. for \$1,000,000). This will allow Dumbledore to increase the overall dividends and not violate any of the constraints. However, since the stock dividend does not give cash to the shareholders, they might not appreciate it.

g) To be able to pay more cash dividends, you need to take some action. You could sell some non-current assets and use some of the proceeds to pay down on debt, and some to distribute as dividends. Suppose you sell a \$4,000,000 asset at no gain and use \$2,000,000 of the proceeds to reduce debt. The change to the balance sheet amounts is:

| | | |
|--------------------|-------|-------------|
| Cash | plus | \$2,000,000 |
| Non-current assets | minus | \$4,000,000 |
| Liabilities | minus | \$2,000,000 |

Debt is down to \$23,000,000, total assets are down to \$36,700,000, and cash is increased to \$6,000,000. The-debt-to-total-assets constraint allows you to distribute dividends of up to \$3,840,000 and you will have plenty of cash to do so. So if you declare a cash dividend of \$3,800,000, you are able to increase the dividend but still satisfy all constraints.

h) Since Dumbledore has \$7,000,000 in investments, given other constraints are satisfied, another consideration is a property dividend.

i) If time allows, the corporation could issue more shares, which will relax the debt-to-total-assets ratio and the cash constraint.

***Pr. 15-153**—Treasury share transactions.

Wye Inc. currently has 5,000 no par common shares outstanding, with a book value of \$175,000.

Instructions

Record the share transactions given below.

Transactions:

- (a) Bought 300 common shares as treasury shares at \$31.
- (b) Sold 80 treasury shares at \$30.
- (c) Sold 40 treasury shares at \$34.
- (d) Retired the rest of the treasury shares.

***Solution 15-153**

| | | |
|--|-------|-------|
| (a) Treasury Shares (300 x \$31) | 9,300 | |
| Cash | | 9,300 |
| (b) Cash (80 x \$30)..... | 2,400 | |
| Retained Earnings | 80 | |
| Treasury Shares (80 x \$31)..... | | 2,480 |
| (c) Cash (40 x \$34)..... | 1,360 | |
| Treasury Shares (40 x \$31)..... | | 1,240 |
| Contributed Surplus | | 120 |
| (d) Common Shares [(\$175,000/5,000) x (300-80-40)]..... | 6,300 | |
| Contributed Surplus | | 720 |
| Treasury Shares (180 x \$31)..... | | 5,580 |

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CHAPTER 16

COMPLEX FINANCIAL INSTRUMENTS

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|------|--|
| b | 1. | Characteristics of derivatives. |
| d | 2. | Purpose of derivatives. |
| c | 3. | Definition of credit risk. |
| c | 4. | Types of market risks. |
| d | 5. | Speculator's objective. |
| a | 6. | Arbitrageur's objective. |
| c | 7. | Valuation of derivatives. |
| b | 8. | Recording gains on derivatives. |
| b | 9. | Meaning of writing an option. |
| d | 10. | Definition of a call option. |
| c | 11. | Definition of a put option. |
| a | 12. | Intrinsic value of an option. |
| b | 13. | Time value of an option. |
| c | 14. | Characteristics of a forward contract. |
| d | 15. | Characteristics of a futures contract. |
| b | 16. | Advantages of issuing debt. |
| b | 17. | Measurement of hybrid/compound instruments. |
| c | 18. | Classification of hybrid/compound instruments. |
| b | 19. | Presentation of high/low preferred shares under ASPE. |
| b | 20. | Valuation of a perpetual bond. |
| d | 21. | Characteristics of convertible bonds. |
| a | 22. | Reasons for issuing convertible bonds. |
| c | 23. | Recording of convertible debt. |
| a | 24. | Recording conversion of bonds. |
| d | 25. | Classification of options on convertible securities. |
| a | 26. | Recording dividends on term preferred shares. |
| c | 27. | Accounting for a non-compensatory stock option plan. |
| d | 28. | Characteristics of a non-compensatory stock option plan. |
| a | 29. | Measurement date for a compensatory stock option plan. |
| c | 30. | Recognition of compensation expense for a stock option plan. |
| b | *31. | Definition of hedging. |
| c | *32. | Fair value hedge. |
| d | *33. | Hedge accounting. |
| b | *34. | Hedge accounting. |
| c | *35. | Swap contract. |
| a | *36. | SAR and timing of valuation. |
| a | *37. | Performance-type plan. |
| d | *38. | Executive compensation plans. |
| c | *39. | Compensation expense in a stock appreciation rights plan. |

| Answer | No. | Description |
|--------|------|---------------------------------|
| a | *40. | Basis of performance-type plan. |

*This topic is dealt with in an Appendix to the chapter.

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|------|--|
| a | 41. | Settlement of a call option. |
| d | 42. | Recording a forward contract. |
| b | 43. | Settlement of a forward contract. |
| a | 44. | Calculating the intrinsic value of an option. |
| b | 45. | Calculating the time value of an option. |
| a | 46. | Recording a call option. |
| b | 47. | Recording the adjusting entry for a call option. |
| d | 48. | Recording expiry of a call option. |
| d | *49. | Recording the adjusting entry for a forward contract. |
| d | 50. | Conversion of convertible bonds. |
| a | 51. | Conversion of convertible bonds. |
| b | 52. | Conversion of convertible bonds. |
| b | 53. | Conversion of convertible bonds. |
| b | 54. | Effective interest rate on convertible bonds. |
| d | 55. | Calculating interest expense on bonds sold between interest dates. |
| a | 56. | Calculating unamortized bond discount on converted bonds. |
| d | 57. | Conversion of preferred shares. |
| a | 58. | Bonds issued with detachable stock warrants. |
| d | 59. | Bonds issued with detachable stock warrants. |
| c | 60. | Bonds issued with detachable stock warrants. |
| d | 61. | Bonds issued with detachable stock warrants. |
| a | 62. | Bonds issued with detachable stock warrants. |
| d | 63. | Bonds issued with detachable stock warrants. |
| c | 64. | Bonds issued with detachable stock warrants. |
| b | 65. | Preferred shares with detachable stock warrants. |
| c | 66. | Valuation of convertible bonds (IFRS). |
| c | 67. | Determine compensation expense in a stock option plan. |
| b | 68. | Determine compensation expense in a stock option plan. |
| a | 69. | Determine compensation expense in a stock option plan. |
| c | *70. | Compensation expense recognized in first year of a SAR plan. |
| b | *71. | Compensation expense recognized in second year of a SAR plan. |
| c | *72. | Compensation expense recognized in third year of a SAR plan |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|------|--|
| c | 73. | Allocation of proceeds from issuance of convertible bonds. |
| d | 74. | Recognition of gains/losses on bond conversion. |
| d | 75. | Bond issue with detachable stock warrants. |
| c | 76. | Compensation expense in a stock option plan. |
| b | *77. | Compensation expense recognized in a SAR plan. |

*This topic is dealt with in an Appendix to the chapter.

EXERCISES

| Item | Description |
|---------|--|
| E16-78 | Definition of derivative instruments. |
| E16-79 | Put options. |
| E16-80 | Convertible bonds. |
| E16-81 | Convertible bonds. |
| E16-82 | Convertible debt and debt with warrants. |
| E16-83 | Redeemable preferred shares and succession planning. |
| E16-84 | Stock options. |
| E16-85 | Employee share ownership plans. |
| *E16-86 | Stock appreciation rights. |

PROBLEMS

| Item | Description |
|---------|---------------------------------|
| P16-87 | Forward contract. |
| P16-88 | Convertible bonds and warrants. |
| P16-89 | Employee stock options. |
| *P16-90 | Interest rate swap. |
| *P16-91 | Hedging (forward contract) |

*This topic is dealt with in an Appendix to the chapter.

MULTIPLE CHOICE—Conceptual

1. Derivative instruments
 - a. require significant investments.
 - b. transfer financial risks.
 - c. transfer primary instruments.
 - d. are settled at the date of issuance.

2. Derivatives exist to help companies
 - a. hide financial irregularities.
 - b. reduce interest expense.
 - c. manage cash flows.
 - d. manage risks.

3. Credit risk is the risk that
 - a. an instrument's price or value will change.
 - b. the company itself will not be able to fulfill its obligation.
 - c. one of the parties to the contract will fail to fulfill its obligation and cause the other party loss.
 - d. cash flow will change over time.

4. The three types of market risk are
 - a. currency, interest rate, and liquidity risks.
 - b. interest rate, other price, and credit risks.
 - c. currency, interest rate, and other price risks.
 - d. liquidity, currency, and other price risks.

5. A speculator's objective is to
 - a. reduce pre-existing risks.
 - b. take delivery of the underlying.
 - c. take advantage of information asymmetry.
 - d. maximize potential returns by being exposed to greater risks.

6. An arbitrageur depends on
 - a. information asymmetry between markets.
 - b. hedging opportunities between markets.
 - c. differing credit risks.
 - d. differing liquidity risks.

7. Derivatives should be valued at
 - a. historical cost.
 - b. fair value or historical cost.
 - c. fair value.
 - d. discounted cost.

8. Gains on derivatives should
 - a. be booked through other comprehensive income.
 - b. be booked through net income.
 - c. be recorded as deferred revenue.
 - d. not be recorded.

9. If a company writes an option, it
 - a. pays a fee and gains a right.
 - b. charges a fee and gives the holder a right.
 - c. charges a fee for handling option transactions.
 - d. endorses an option over to another party.

10. A call option is a right to
 - a. force another party to buy the underlying security.
 - b. repurchase a previously sold underlying security.
 - c. sell the underlying security.
 - d. buy the underlying security.

11. a put option is a right to
 - a. force another party to buy the underlying security.
 - b. repurchase a previously sold underlying security.
 - c. sell the underlying security.
 - d. buy the underlying security.

12. The intrinsic value of an option is the
 - a. difference between the price of the underlying security and the strike price.
 - b. value due to expectations that the price of the underlying security will rise above the strike price.
 - c. minimum value of the option.
 - d. option premium value.

13. The time value of an option is the
 - a. difference between the price of the underlying security and the strike price.
 - b. value due to expectations that the price of the underlying security will rise above the strike price.
 - c. minimum value of the option.
 - d. option premium value.

14. A forward contract
 - a. is generally exchange traded, therefore has a ready market value.
 - b. creates a right but not an obligation.
 - c. commits the contracting parties upfront to do something in the future.
 - d. has no locked in time period.

15. A futures contract
 - a. is not exchange traded, therefore does not have a ready market value.
 - b. exposes the contracting party to credit risk.
 - c. does not require a margin account to be established.
 - d. is standardized as to amounts and dates.

16. An advantage of issuing debt instead of equity is that
- interest must be paid, regardless of earnings.
 - the interest is tax deductible.
 - it increases solvency or liquidity risks.
 - no leverage is possible.
17. With regard to the measurement of hybrid/compound instruments, which of the following statements is correct?
- IFRS requires the use of the relative fair value method.
 - IFRS requires the use of the residual method.
 - ASPE (PE GAAP) does not allow the equity component to be valued at zero.
 - After the initial measurement, the debt portion is always measured at fair value.
18. Which of the following would be classified as a hybrid/compound financial instrument?
- Perpetual debt.
 - Mandatorily redeemable preferred shares.
 - Debt with detachable warrants.
 - Puttable shares.
19. ASPE (PE GAAP) requires that high/low (redeemable) preferred shares be presented as
- Long-term debt.
 - Equity.
 - Either equity or long-term debt.
 - A contra-asset.
20. The value of a perpetual bond is equal to
- the present value of the principal and the interest.
 - the present value of the interest alone.
 - the present value of the principal alone.
 - zero.
21. Convertible bonds
- have priority over all other types of bonds.
 - are usually secured by a first or second mortgage.
 - pay interest only in the event earnings are sufficient to cover the interest.
 - may usually be exchanged for common shares.
22. A common reason for issuing convertible bonds is
- to obtain debt financing at cheaper rates.
 - to avoid paying dividends on common shares.
 - to give the purchaser the option of buying preferred shares.
 - to reduce the debt-to-total assets ratio.
23. A convertible debt security is recorded as a debt instrument
- with the equity feature ignored.
 - with the equity feature described in a note.
 - and an equity component.
 - with the conversion component credited to the Common Shares account.

24. The conversion of bonds is most commonly recorded by the
 - a. book value method.
 - b. relative fair value method.
 - c. market value method.
 - d. residual method.
25. For convertible securities, the portion relating to the option should be classified as
 - a. a liability.
 - b. a reduction of contributed surplus.
 - c. an asset.
 - d. an addition to contributed surplus.
26. Dividends on term preferred shares, where the shares have been recorded as a liability, should be debited to
 - a. interest expense.
 - b. retained earnings.
 - c. contributed surplus.
 - d. other comprehensive income.
27. Under a (non-compensatory) employee stock option plan (ESOP), when an option is sold to an employee, the employer debits Cash and credits
 - a. Common Shares.
 - b. Stock Option Payable.
 - c. Contributed Surplus – Stock Options.
 - d. Stock Option Revenue.
28. Which of the following is *not* a characteristic of a non-compensatory employee stock option plan (ESOP)?
 - a. The plan is generally available to all employees.
 - b. There is only a small discount from the market price.
 - c. The plan requires the employee to pay an up-front premium.
 - d. The plan is accounted for as compensation expense.
29. The date on which to measure the compensation element in a compensatory stock option plan (CSOP) is normally the date on which the employee
 - a. is granted the option.
 - b. has fulfilled all the conditions required to exercise the option.
 - c. may first exercise the option.
 - d. exercises the option.
30. Compensation expense resulting from a compensatory stock option plan (CSOP) is generally recognized
 - a. in the period of exercise.
 - b. at the grant date.
 - c. in the periods in which the employee performs the service.
 - d. over the periods of the employee's service life to retirement.

- *31. Hedging is the use of
- derivatives or other instruments to increase returns.
 - derivatives or other instruments to offset risks.
 - debt to offset risks.
 - forward contracts.
- *32. A fair value hedge protects the company against
- errors in valuation of derivative instruments.
 - a future transaction that has not yet been recognized.
 - an existing exposure related to an existing asset or liability.
 - fluctuations in exchange rates.
- *33. Hedge accounting is
- mandatory.
 - mandatory if specified criteria are met.
 - optional until December 2010 and mandatory thereafter.
 - optional.
- *34. Hedge accounting allows the gain or loss on the hedge transaction to
- be booked through net income.
 - be booked through comprehensive income.
 - not be booked.
 - not be booked until the hedge closes.
- *35. If a company enters into a hedging contract to swap a floating interest rate for a fixed rate, by the end of the contract the interest rate incurred by the company will equal
- the difference between the fixed and the floating rate.
 - the floating rate.
 - the fixed rate.
 - whichever rate is highest.
- *36. If an SAR is determined to be an equity instrument, it would be valued at
- grant date and not revised at subsequent interim dates.
 - each interim date.
 - exercise date.
 - grant date and revalued at exercise date.
- *37. Compensation expense resulting from a performance-type plan is generally
- determined at the measurement date.
 - recognized in the period of the grant.
 - allocated to the periods subsequent to the measurement date.
 - recognized in the period of exercise.
- *38. An executive compensation plan in which the executive may receive compensation in cash, shares, or a combination of both, is known as
- a nonqualified shares option plan.
 - a performance-type plan.
 - a stock appreciation rights plan.
 - both a performance-type and a stock appreciation rights plan.

- *39. The date on which to measure the compensation in a stock appreciation rights plan is the
- date of grant.
 - date of exercise.
 - end of each interim period up to the date of exercise.
 - date that the market price exceeds the option price.
- *40. The payment to executives from a performance-type plan is *never* based on the
- market price of the common shares.
 - return on assets (investment).
 - return on common shareholders' equity.
 - sales.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | b | 7. | c | 13. | b | 19. | b | 25. | d | *31. | b | *37. | a |
| 2. | d | 8. | b | 14. | c | 20. | b | 26. | a | *32. | c | *38. | d |
| 3. | c | 9. | b | 15. | d | 21. | d | 27. | c | *33. | d | *39. | c |
| 4. | c | 10. | d | 16. | b | 22. | a | 28. | d | *34. | b | *40. | a |
| 5. | d | 11. | c | 17. | b | 23. | c | 29. | a | *35. | c | | |
| 6. | a | 12. | a | 18. | c | 24. | a | 30. | c | *36. | a | | |

MULTIPLE CHOICE—Computational

41. On July 5, 2012, Alpha Corp. purchased a call option for \$1,200, giving it the right to buy 1,000 shares of Omega Corp. for \$20 per share. On August 18, 2012, when the option value is \$6,000, Omega settles the option for cash. The entry on Alpha’s books to record the settlement is
- | | | |
|---|-------|-------|
| a. Cash | 6,000 | |
| Derivatives – Financial Assets/Liabilities | | 1,200 |
| Gain | | 4,800 |
| b. Cash | 6,000 | |
| Gain | | 6,000 |
| c. Cash | 6,000 | |
| Derivatives – Financial Assets/Liabilities | | 6,000 |
| d. Derivatives – Financial Assets/Liabilities | 1,200 | |
| Cash | 4,800 | |
| Gain | | 6,000 |

Use the following information for questions 42 and 43.

On August 25, 2012, Beta Inc. entered into a forward contract to buy 100,000 Chinese RMB for \$16,600 Canadian (CAD) on September 5, 2012. On August 31, 2012, 100,000 RMB can be purchased for \$16,000 CAD. On September 5, Beta settles the contract but does not take delivery of the RMB.

42. The entry to record the change in value of the contract at August 31, 2012 is
- | | | |
|---|-----|-----|
| a. no entry. | | |
| b. Unrealized Loss | 600 | |
| Derivatives – Financial Assets/Liabilities | | 600 |
| c. Derivatives – Financial Assets/Liabilities | 600 | |
| Gain | | 600 |
| d. Loss | 600 | |
| Derivatives – Financial Assets/Liabilities | | 600 |
43. On September 5, 2012, the RMB is trading at \$0.17 CAD. The entry to record the settlement of the contract is
- | | | |
|---|-------|-------|
| a. Derivatives – Financial Assets/Liabilities | 600 | |
| Cash | 1,000 | |
| Gain | | 1,600 |
| b. Derivatives – Financial Assets/Liabilities | 600 | |
| Cash | 400 | |
| Gain | | 1,000 |
| c. Derivatives – Financial Assets/Liabilities | 600 | |
| Cash | | 400 |
| Gain | | 200 |
| d. Cash | 1,000 | |
| Derivatives – Financial Assets/Liabilities | 600 | |
| Gain | | 400 |

Use the following information for questions 44 through 48.

On April 1, 2012, Gamma Corp. purchases a call option for \$500, which gives it the right to buy 1,000 shares of Delta Inc. for \$30 each until December 1, 2012. Delta Inc. shares are currently trading for \$30 each. At June 30, 2012, the options are trading at \$4,800 and the shares at \$32 each. At December 1, 2012, the options expire with no value.

44. The intrinsic value of the option at April 1, 2012 is
- \$ 0.
 - \$ 500.
 - \$1,000.
 - \$4,800.

45. The time value of the option at April 1, 2012 is
- \$ 0.
 - \$ 500.
 - \$ 4,800.
 - \$30,000.

46. The entry to record the purchase of the call option is
- | | | |
|---|-----|-----|
| a. Derivatives – Financial Assets | 500 | |
| Cash | | 500 |
| b. Cash | 500 | |
| Derivatives – Financial Assets | | 500 |
| c. Investments—Held-To-Maturity | 500 | |
| Cash | | 500 |
| d. No entry required. | | |

47. At June 30, 2012, Gamma’s quarter end, the adjusting entry would be
- | | | |
|---|-------|-------|
| a. No entry required. | | |
| b. Derivatives – Financial Assets | 4,300 | |
| Gain | | 4,300 |
| c. Derivatives – Financial Assets | 4,300 | |
| Other Comprehensive Income | | 4,300 |
| d. Derivatives – Financial Assets | 4,800 | |
| Gain | | 4,800 |

48. At December 1, 2012, Gamma’s entry would be
- | | | |
|--------------------------------------|-------|-------|
| a. No entry required. | | |
| b. Loss | 2,000 | |
| Derivatives – Financial Assets | | 2,000 |
| c. Loss | 4,300 | |
| Derivatives – Financial Assets | | 4,300 |
| d. Loss | 4,800 | |
| Derivatives – Financial Assets | | 4,800 |

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- *49. On October 5, 2012, Active T-shirt Ltd. enters into a forward contract to purchase 10,000 metres of cotton fabric at \$1 per metre, good until February 1, 2013. At December 31, 2012, the forward price for February 2013 delivery of cotton fabric has increased to \$1.05 per metre. The adjusting entry at December 31, 2012 would be
- No entry required.
 - | | | |
|--|-----|-----|
| Derivatives – Financial Assets/Liabilities | 500 | |
| Gain | | 500 |
 - | | | |
|--|-----|-----|
| Unrealized Holding Loss/Gain (OCI) | 500 | |
| Derivatives – Financial Assets/Liabilities | | 500 |
 - | | | |
|--|-----|-----|
| Derivatives – Financial Assets/Liabilities | 500 | |
| Unrealized Holding Loss/Gain (OCI)..... | | 500 |

Use the following information for questions 50 and 51.

Joseph Inc. has \$3,000,000 (par value), 8% convertible bonds outstanding. Each \$1,000 bond is convertible into 30 no par value common shares. The bonds pay interest on January 31 and July 31. On July 31, 2012, the holders of \$900,000 worth of bonds exercised the conversion privilege. On that date the market price of the bonds was 105, the market price of the common shares was \$36, the carrying value of the common shares was \$18 and the Contributed Surplus—Conversion Rights account balance was \$450,000. The total unamortized bond premium at the date of conversion was \$210,000.

- Using the book value method, Joseph should record as a result of this conversion
 - a loss of \$9,000.
 - other comprehensive income of \$9,000.
 - a gain of \$18,000.
 - no gain or loss.
- Using the book value method, Joseph should record as a result of this conversion
 - a debit of \$135,000 to Contributed Surplus—Conversion Rights.
 - a credit of \$135,000 to Contributed Surplus—Conversion Rights.
 - a credit of \$63,000 to Bonds Payable.
 - a debit of \$210,000 to Bonds Payable.
- On July 1, 2012, an interest payment date, \$90,000 (par value) of Limberger Corp. bonds were converted into 1,800 of their no par common shares. At this time, the unamortized discount on the bonds was \$3,600. When the bonds were issued the equity portion of the bond was valued at \$850. Using the book value method, Limberger would record
 - no change in Contributed Surplus.
 - an \$87,250 increase in Common Shares.
 - an \$86,400 increase in Common Shares.
 - an \$85,550 increase in Common Shares.

53. Sellers Corporation has two issues of securities outstanding: no par value common shares and an 8% convertible bond issue with a par value of \$8,000,000. Bond interest payment dates are June 30 and December 31. The conversion clause in the bond indenture entitles the bondholders to receive 40 common shares in exchange for each \$1,000 bond. The value of the equity portion of the bond issue is \$60,000. On June 30, 2012, the holders of \$1,200,000 par value bonds exercise the conversion privilege. The market price of the bonds on that date is \$1,100 per bond and the market price of the common shares is \$35. The total unamortized bond discount at the date of conversion is \$500,000. In applying the book value method, what amount should Sellers credit to Common Shares as a result of this conversion?
- \$1,284,000.
 - \$1,134,000.
 - \$1,125,000.
 - \$1,116,000.

Use the following information for questions 54 through 56.

Harriet Ltd issued \$6,000,000 (par value), 9%, ten-year convertible bonds on July 1, 2012 at 96.1 plus accrued interest. The bonds were dated April 1, 2012 with interest payable on April 1 and October 1. If the bonds had not been convertible, they would have sold for 98 plus accrued interest. The bond discount is amortized on a straight-line basis. On April 1, 2013, \$1,200,000 of these bonds were converted into 500 no par common shares. Accrued interest was paid in cash at the time of conversion.

54. What was the effective interest rate on the bonds when they were issued?
- 9%.
 - Above 9%.
 - Below 9%.
 - Cannot determine from the information given.
55. If Interest Payable were credited when the bonds were issued, what is the debit to Interest Expense on October 1, 2012?
- \$129,000.
 - \$135,000.
 - \$141,000.
 - \$143,923.
56. What is the amount of the unamortized bond discount on April 1, 2013 relating to the bonds converted?
- \$64,246.
 - \$46,800.
 - \$43,200.
 - \$44,400.

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57. In 2011, Petruchio Inc. issued 20,000 no par value convertible preferred shares for \$103 per share. One preferred share can be converted into three shares of Petruchio's no par value common shares at the option of the preferred shareholder. In August 2012, all of the preferred shares were converted into common shares. The market value of the common shares at the date of the conversion was \$30 per share. What total amount should be credited to Common Shares as a result of this conversion?
- \$ 600,000.
 - \$1,000,000.
 - \$1,800,000.
 - \$2,060,000.
58. On December 1, 2012, Horton Ltd issued 500 of its 9%, \$1,000 bonds at 103. Attached to each bond was one detachable stock warrant entitling the holder to purchase ten of Horton's common shares. At this time, the market value of the bonds, without the stock warrants, was 95, and the market value of each stock warrant was \$50. Using the residual method, the amount of the proceeds from the issuance that should be credited to Bonds Payable would be
- \$475,000.
 - \$489,250.
 - \$500,000.
 - \$515,000.
59. On March 1, 2012, Murdoch Corporation issued \$300,000 (par value), 20 year, 8% nonconvertible bonds at 104. In addition, each \$1,000 bond was issued with 25 detachable stock warrants, each of which entitling the bondholder to purchase for \$50 one of Murdoch's no par value common shares. The bonds without the warrants would normally sell at 95. At this time, the market value of Murdoch's common shares was \$40 per share and the market value of each warrant was \$2.00. Using the relative fair value method, what amount should Murdoch record on March 1, 2012 as Contributed Surplus – Conversion Rights?
- \$10,800.
 - \$12,600.
 - \$15,000.
 - \$15,600.
60. During 2012, Parris Corp. issued four hundred \$1,000 bonds at 104. One detachable stock warrant, entitling the holder to purchase 15 of Parris' common shares was attached to each bond. At the date of issuance, the market value of the bonds, without the stock warrants, was 96. The market value of each detachable warrant was \$40. Using the relative fair value method, what amount should Parris credit to Bonds Payable from the proceeds?
- \$416,000.
 - \$400,000.
 - \$399,360.
 - \$384,000.

61. On April 7, 2012, Kaiser Corp sold a \$2,000,000 (par value), 20 year, 8% bond issue for \$2,120,000. Each \$1,000 bond has two detachable warrants. Each warrant permits the purchase of one of Kaiser's no par value common shares for \$30. At the time of the sale, Kaiser's securities had the following market values:

| | |
|------------------------------------|---------|
| Each \$1,000 bond without warrants | \$1,008 |
| Warrants | \$21 |
| Common shares | \$28 |

Assuming that Kaiser adheres to IFRS, what entry should the corporation make to record the sale of the bonds?

| | | |
|------------------------------------|-----------|-----------|
| a. Cash | 2,120,000 | |
| Bonds Payable | | 2,000,000 |
| Contributed Surplus—Stock Warrants | | 120,000 |
| b. Cash | 2,120,000 | |
| Bonds Payable | | 2,036,000 |
| Contributed Surplus—Stock Warrants | | 84,000 |
| c. Cash | 2,120,000 | |
| Bonds Payable | | 2,120,000 |
| d. Cash | 2,120,000 | |
| Bonds Payable | | 2,016,000 |
| Contributed Surplus—Stock Warrants | | 104,000 |

Use the following information for questions 62 and 63.

On May 1, 2012, Norway Corp. issued \$500,000, 10 year, 7% bonds at 103. Twenty detachable stock warrants were attached to each \$1,000 bond, which entitled the holder to purchase one of Norway's no par value common shares for \$40. At this time, similar bonds without warrants were selling at 96. It was determined that the fair value of Norway's common shares was \$35, but the value of the warrants was not determinable. Norway is a private corporation that follows ASPE (PE GAAP), but does not use the residual method.

62. On May 1, 2012, Norway should credit Bonds Payable for
- \$515,000.
 - \$500,000.
 - \$480,000.
 - cannot be determined from the information given.
63. On May 1, 2012, Norway should credit Contributed Surplus--Stock Warrants for
- \$35,000.
 - \$20,000.
 - \$15,000.
 - \$ 0.

64. Longhorn Inc. issued bonds with warrants for \$5,000,000. The bonds have a face value of \$5,000,000 and a present value of \$4,934,400. The fair value of the warrants is determined to be \$220,000. Using the relative fair value method, how much of the issue price should be allocated to the warrants?
- \$ 65,600
 - \$211,200
 - \$213,500
 - \$220,000

65. On July 1, 2012, Kilo Inc issued 10,000, \$7 non-cumulative, no par value preferred shares for \$1,050,000. Included with each share was one detachable warrant, giving the holder the right to purchase one of Kilo's no par value common shares for \$15. At this time, the shares without the warrants would normally sell for \$1,025,000, while the market price of the rights was \$2.50 per right. On October 31, 2012, when the market price of the common shares was \$19 each and the market value of the warrants was \$3.00 each, 4,000 warrants were exercised. Kilo adheres to IFRS. As a result of the exercise of the warrants and the issuance of the related common shares, what journal entry would Kilo make?

| | | |
|---|--------|--------|
| a. Cash | 60,000 | |
| Common Shares | | 60,000 |
| b. Cash | 60,000 | |
| Contributed Surplus—Stock Warrants..... | 10,000 | |
| Common Shares | | 70,000 |
| c. Cash | 60,000 | |
| Contributed Surplus—Stock Warrants..... | 25,000 | |
| Common Shares | | 85,000 |
| d. Cash | 60,000 | |
| Contributed Surplus—Stock Warrants..... | 15,000 | |
| Common Shares | | 75,000 |

66. Portage International Ltd. issued \$4,000,000, 5-year, 8% convertible bonds at par. Each \$1,000 bond is convertible to 200 of Portage's no par value common shares, which are currently trading at \$25 each. The current market rate for similar non-convertible bonds is 10%. Assuming Portage adheres to IFRS, the value to be recorded for the conversion option is
- \$ 0.
 - \$ 100,000.
 - \$ 303,267.
 - \$2,000,000.

67. On January 1, 2009, Ward Corp. granted stock options for 50,000 of its no par value common shares to its key employees. The market price of the common shares on that date was \$23 per share and the option price was \$25. The Black-Scholes option pricing model determined total compensation expense to be \$300,000. The options are exercisable beginning January 1, 2012, providing the key employees are still employed by Ward at the time the options are exercised. The options expire on January 1, 2013.

On January 1, 2012, when the market price of the shares was \$29 per share, all 50,000 options were exercised. The amount of compensation expense Ward should record for 2009 is

- \$ 0.
 - \$ 50,000.
 - \$100,000.
 - \$150,000.
68. On June 30, 2009, Boulder Corp granted stock options for 30,000 of its no par value common shares to certain of its key employees. On that date, the market price of the common shares was \$36 and the option price was \$30. The Black-Scholes option pricing model determines total compensation expense to be \$360,000. The options are exercisable beginning January 1, 2012, providing the key employees are still employed by Boulder at the time the options are exercised. The options expire on June 30, 2014.

On January 4, 2012, when the market price of the shares was \$42 per share, all 30,000 options were exercised. What should be the amount of compensation expense recorded by Boulder Corp for the calendar year 2011?

- \$ 0.
 - \$144,000.
 - \$180,000.
 - \$360,000.
69. In order to retain certain key executives, Hsu Corporation granted them stock options on December 31, 2011. 25,000 options were granted at an option price of \$35 per share. Market prices of the shares were as follows:

| | |
|-------------------|----------------|
| December 31, 2012 | \$46 per share |
| December 31, 2013 | 51 per share |

The options were granted as compensation for executives' services to be rendered over a two-year period beginning January 1, 2012. The Black-Scholes option pricing model determines total compensation expense to be \$250,000. What amount of compensation expense should Hsu recognize as a result of this plan for the year ended December 31, 2012?

- \$125,000.
- \$250,000.
- \$275,000.
- \$875,000.

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Use the following information for questions *70 through *72.

On January 1, 2011, Preston Ltd. established a stock appreciation rights plan for its executives. This plan entitles them to receive cash at any time during the next four years for the difference between the market price of its common shares and a pre-established price of \$20, on 50,000 SARs. Market prices of the shares are as follows:

| | |
|-------------------|----------------|
| January 1, 2011 | \$35 per share |
| December 31, 2011 | \$38 per share |
| December 31, 2012 | \$30 per share |
| December 31, 2013 | \$33 per share |

Compensation expense relating to the plan is to be recorded over a four-year period beginning January 1, 2011.

- *70. What amount of compensation expense should Preston recognize for the year ended December 31, 2011?
 - a. \$150,000.
 - b. \$187,500.
 - c. \$225,000.
 - d. \$900,000.

- *71. What amount of compensation expense should Preston recognize for the year ended December 31, 2012?
 - a. \$ 0.
 - b. \$ 25,000.
 - c. \$125,000.
 - d. \$250,000.

- *72. On December 31, 2013, 8,000 SARs are exercised by executives. What amount of compensation expense should Preston recognize for the year ended December 31, 2013?
 - a. \$ 65,000.
 - b. \$162,500.
 - c. \$237,500.
 - d. \$487,500.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 41. | a | 47. | b | 53. | b | 59. | d | 65. | b | *71. | b |
| 42. | d | 48. | d | 54. | b | 60. | c | 66. | c | *72. | c |
| 43. | b | *49. | d | 55. | d | 61. | d | 67. | c | | |
| 44. | a | 50. | d | 56. | a | 62. | a | 68. | b | | |
| 45. | b | 51. | a | 57. | d | 63. | d | 69. | a | | |
| 46. | a | 52. | b | 58. | a | 64. | c | *70. | c | | |

MULTIPLE CHOICE—CPA Adapted

Use the following information for questions 73 and 74.

On January 2, 2011, Corn Corp. issued 10-year convertible bonds at 105. During 2012, these bonds were converted into common shares having a total value equal to the total face amount of the bonds. At conversion, the market price of Corn's common shares was 50% above its average carrying value. Corn adheres to IFRS.

73. On January 2, 2011, cash proceeds from the issuance of the convertible bonds should be reported as
- contributed surplus for the entire proceeds.
 - contributed surplus for the portion of the proceeds attributable to the conversion feature and as a liability for the balance.
 - a liability for the present value of the bonds and contributed surplus for the balance.
 - a liability for the entire proceeds.
74. Depending on whether the book value method or the market value method was used, Corn would recognize gains or losses on conversion when using the

| <u>Book Value Method</u> | <u>Market Value Method</u> |
|----------------------------------|----------------------------|
| a. Either gain or loss. | Gain |
| b. Either gain or loss. | Loss |
| c. Neither gain <i>nor</i> loss. | Loss |
| d. Neither gain <i>nor</i> loss. | Gain or loss |

75. Antigone Corp. issued bonds with detachable common stock warrants. Only the bonds had a known market value. Using the residual method, the value attributable to the warrants is reported as
- Stock Warrants Distributable.
 - Other Comprehensive Income.
 - Common Shares Subscribed.
 - Contributed Surplus—Stock Warrants.
76. On January 1, 2012, Athabaska Corp. granted an employee an option to purchase 5,000 of Athabaska's no par value common shares at \$50 per share. The Black-Scholes option pricing model determines total compensation expense to be \$220,000. The option became exercisable on December 31, 2013, after the employee completed two years of service. The market prices of Athabaska's shares were as follows:

| | |
|-------------------|------|
| January 1, 2012 | \$40 |
| December 31, 2013 | \$52 |

For calendar 2013, Athabaska should recognize compensation expense of

- \$ 0.
- \$ 50,000.
- \$110,000.
- \$250,000.

- *77. On January 2, 2012, for past services, Hemlock Corp. granted Joanna Wood, its president, 18,000 stock appreciation rights that are exercisable immediately and expire on January 2, 2013. On exercise, Wood is entitled to receive cash for the excess of the market price of the shares on the exercise date over the market price on the grant date. Wood did not exercise any of the rights during 2012. The market price of Hemlock's shares was \$35 on January 2, 2012, and \$45 on December 31, 2012. As a result of the stock appreciation rights, Hemlock should recognize compensation expense for 2012 of
- \$ 0.
 - \$180,000.
 - \$630,000.
 - \$810,000.

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 73. | c | 74. | d | 75. | d | 76. | c | *77. | b |

DERIVATIONS—Computational

| No. | Answer | Derivation |
|------|--------|--|
| 41. | a | $\$6,000 - \$1,200 = \$4,800$ gain. |
| 42. | d | Agreed payment $\$16,600 - \$16,000$ current cost = $\$600$ loss. |
| 43. | b | 100,000 RMB @ $\$.17 = \$17,000$ $\$17,000 - \$16,600$ settlement amount = $\$400$ gain overall $\$400$ gain + $\$600$ loss previously recorded = $\$1,000$ gain to record. |
| 44. | a | $\$30 - \$30 = \$0$. |
| 45. | b | $\$500 - \$0 = \$500$. |
| 46. | a | Conceptual. |
| 47. | b | $\$4,800$ fair value less $\$500$ recorded cost = $\$4,300$ gain. |
| 48. | d | $\$0 - \$4,800 = \$4,800$ loss. |
| *49. | d | $(\$1.05 - \$1.00) \times 10,000 = \$500$ gain. |
| 50. | d | Conceptual |
| 51. | a | $\$450,000 \times 900/3,000 = \$135,000$. |
| 52. | b | $90,000 - \$3,600 + \$850 = \$87,250$. |
| 53. | b | $(\$1,200,000/8,000,000) \times \$500,000 = \$75,000$ (unamortized discount) $(\$1,200,000/8,000,000) \times \$60,000 = \$9,000$ (cont. surplus) $\$1,200,000 - \$75,000 + \$9,000 = \$1,134,000$. |
| 54. | b | Bonds issued at a discount, therefore effective (market) rate > stated rate. |
| 55. | d | $\$6,000,000 \times 96.1\% = \$5,766,000$ $\$6,000,000 \times 98\% = \$5,880,000$ $\$5,880,000 - \$5,766,000 = \$114,000$ (cont. surplus) $\$5,766,000 + (\$6,000,000 \times .09 \times 3/12) = \$5,901,000$ (cash rec'd) $\$6,000,000 + \$135,000 + \$114,000 - \$5,901,000 = \$348,000$ (bond discount) $(\$6,000,000 \times .09 \times 3/12) + (\$348,000 \times 3/117) = \$143,923$. |
| 56. | a | $\$348,000 \times (\$1,200,000/\$6,000,000) \times (108/117) = \$64,246$. |
| 57. | d | $\$103 \times 20,000 = \$2,060,000$. |
| 58. | a | $500 \times \$1,000 \times .95 = \$475,000$, balance to contrib surplus. |

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- | No. | Answer | Derivation | | | | | | | | | |
|-----------------------------------|--------------------|--|--------------------------------|-------------|-----------------------------------|------------------|----------------|--------------------|-------|--------------------|-------------|
| 59. | d | $(\$300,000 \times .95) + (300 \times 25 \times \$2) = \$300,000$; $\$300,000 \times 1.04 = \$312,000$ $\frac{\$15,000}{\$300,000} \times \$312,000 = \$15,600.$ | | | | | | | | | |
| 60. | c | $(\$400,000 \times .96) + (400 \times \$40) = \$400,000$; $\$400,000 \times 1.04 = \$416,000$ $\frac{\$384,000}{\$400,000} \times \$416,000 = \$399,360.$ | | | | | | | | | |
| 61. | d | IFRS requires residual method $\$2,000,000/\$1,000 = 2,000$ bonds sold; $2,000 \times \$1,008 = \$2,016,000$ balance to cont. surplus | | | | | | | | | |
| 62. | a | Under ASPE, if not using residual method, can assign zero to equity component, therefore entire proceeds of $\$500,000 \times 1.03 = \$515,000$ credited to Bonds | | | | | | | | | |
| 63. | d | see Q 62 | | | | | | | | | |
| 64. | c | <table border="0" style="margin-left: 20px;"> <tr> <td>Bonds</td> <td style="text-align: right;">\$4,934,400</td> <td style="text-align: right;">95.73%</td> </tr> <tr> <td>Warrants</td> <td style="text-align: right;"><u>220,000</u></td> <td style="text-align: right;"><u>4.27%</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;"><u>\$5,154,400</u></td> <td style="text-align: right;"><u>100%</u></td> </tr> </table> $\$5,000,000$ issue price $\times 4.27\% = \$213,500.$ | Bonds | \$4,934,400 | 95.73% | Warrants | <u>220,000</u> | <u>4.27%</u> | Total | <u>\$5,154,400</u> | <u>100%</u> |
| Bonds | \$4,934,400 | 95.73% | | | | | | | | | |
| Warrants | <u>220,000</u> | <u>4.27%</u> | | | | | | | | | |
| Total | <u>\$5,154,400</u> | <u>100%</u> | | | | | | | | | |
| 65. | b | Dr. Cash: $4,000 \times \$15 = \$60,000$ Dr. Contributed Surplus—Stock Warrants: $\$25,000 \times 4/10 = \$10,000$ Cr. Common Shares: $\$60,000 + \$10,000 = \$70,000.$ | | | | | | | | | |
| 66. | c | <table border="0" style="margin-left: 20px;"> <tr> <td>PV \$4,000,000, 5 years, 10% =</td> <td style="text-align: right;">\$2,483,680</td> </tr> <tr> <td>PV \$320,000/year, 5 years, 10% =</td> <td style="text-align: right;"><u>1,213,053</u></td> </tr> <tr> <td>Total</td> <td style="text-align: right;"><u>\$3,696,733</u></td> </tr> </table> Issue price of $\$4,000,000 - \$3,696,733 = \$303,267$ value of option. | PV \$4,000,000, 5 years, 10% = | \$2,483,680 | PV \$320,000/year, 5 years, 10% = | <u>1,213,053</u> | Total | <u>\$3,696,733</u> | | | |
| PV \$4,000,000, 5 years, 10% = | \$2,483,680 | | | | | | | | | | |
| PV \$320,000/year, 5 years, 10% = | <u>1,213,053</u> | | | | | | | | | | |
| Total | <u>\$3,696,733</u> | | | | | | | | | | |
| 67. | c | $\$300,000 \div 3 = \$100,000/\text{year}.$ | | | | | | | | | |
| 68. | b | $\$360,000 \times 12/30 = \$144,000.$ | | | | | | | | | |
| 69. | a | $\$250,000 \div 2 = \$125,000.$ | | | | | | | | | |
| *70. | c | $(\$38 - \$20) \times 50,000 \times .25 = \$225,000.$ | | | | | | | | | |
| *71. | b | $(\$30 - \$20) \times 50,000 \times .5 = \$250,000$ $\$250,000 - \$225,000 = \$25,000.$ | | | | | | | | | |
| *72. | c | $(\$33 - \$20) \times 50,000 \times .75 = \$487,500$ $\$487,500 - \$250,000 = \$237,500.$ | | | | | | | | | |

DERIVATIONS—CPA Adapted

| No. | Answer | Derivation |
|------|--------|--|
| 73. | c | Conceptual. |
| 74. | d | Conceptual. |
| 75. | d | Conceptual. |
| 76. | c | $\$220,000 \div 2 = \$110,000.$ |
| *77. | b | $(\$45 - \$35) \times 18,000 = \$180,000.$ |

Unauthorized

EXERCISES

Ex. 16-78—Definition of derivative instruments.

Define and explain derivative instruments.

Solution 16-78

Derivatives are financial instruments, which create rights and obligations that have the effect of transferring between parties to the instrument one or more of the financial risks inherent in an underlying primary instrument without having to transfer the underlying instrument. Derivative instruments require little or no initial investment, their values change in response to the underlying instrument, and they are settled at a future date.

Ex. 16-79—Put options.

On November 15, 2012, Rowena Inc. purchases a held-for-trading investment for \$500,000. Rowena also enters into a put option to sell the shares for \$500,000. At December 31, 2012, the investment is valued at \$510,000.

Instructions

Record any adjusting entry(ies) required at December 31, 2012 under hedge accounting.

Solution 16-79

| | | |
|--|--------|--------|
| Investment—HFT (\$510,000 – \$500,000) | 10,000 | |
| Gain..... | | 10,000 |
| Loss | 10,000 | |
| Derivatives – Financial Assets | | 10,000 |

Ex. 16-80—Convertible bonds.

On December 1, 2012, Balwinder Corp. issued \$5,000,000 (par value), 12%, 5-year convertible bonds for \$5,026,000 plus accrued interest. The bonds were dated April 1, 2012 with interest payable April 1 and October 1. If the bonds had not been convertible, they would have sold for \$5,006,000. Bond premium/discount is amortized each interest period on a straight-line basis. Balwinder’s fiscal year end is September 30.

On October 1, 2013, half of these bonds were converted into 35,000 no par common shares. Accrued interest was paid in cash at the time of conversion.

Instructions

- (a) Prepare the entry to record the interest expense at April 1, 2013. Assume that interest payable was credited when the bonds were issued (round to nearest dollar).
- (b) Prepare the entry to record the conversion on October 1, 2013. Use the book value method. Assume that the entry to record amortization of the bond premium/discount and interest payment has been made.

Solution 16-80

(a) April 1, 2013

| | | |
|------------------------|---------|---------|
| Interest Payable | 100,000 | |
| Interest Expense | 199,540 | |
| Bonds Payable | 460 | |
| Cash | | 300,000 |

Calculations:

| | |
|-------------------------------------|------------------|
| Issuance price | \$5,026,000 |
| Price without conversion | <u>5,006,000</u> |
| Contributed surplus-conversion | <u>\$ 20,000</u> |
| | |
| Premium (\$5,006,000 – \$5,000,000) | \$6,000 |
| Months remaining | 52 |
| Premium per month | \$115 |
| Premium amortized (4 × \$115) | \$460 |

(b) October 1, 2013

| | | |
|--|-----------|-----------|
| Bonds Payable (\$2,500,000 + \$1,854*) | 2,501,854 | |
| Contributed Surplus—Conversion Rights (\$20,000 x 50%) | 10,000 | |
| Common Shares | | 2,511,854 |

Calculations:

| | | |
|-------------------------------------|----------------|------------------------|
| Premium related to 1/2 of the bonds | \$3,000 | (\$6,000 ÷ 2) |
| Less premium already amortized | <u>1,154</u> | [((\$6,000 ÷ 52) × 10] |
| Premium remaining* | <u>\$1,854</u> | |

Ex. 16-81—Convertible bonds.

SoftTop Ltd. sold convertible bonds at a premium. Interest is paid on May 31 and November 30. On May 31, after the required interest was paid, all the bonds were converted into 3,000 no par value common shares, which were currently trading at \$40 per share.

Instructions

How should SoftTop account for the conversion of the bonds under the book value method? Discuss the rationale for this method.

Solution 16-81

To account for the conversion of bonds under the book value method, Bonds Payable should be debited for the current carrying value, the entire amount of Contributed Surplus—Conversion Rights should be debited and Common Shares should be credited for the total of these two amounts. The current market value of the shares is irrelevant. No gain or loss on conversion is recorded. The amount to be recorded for the shares is equal to the carrying value of the bonds plus the balance of the Contributed Surplus—Conversion Rights that was recorded when the convertible bonds were first issued. The rationale for the book value method is that the conversion is the completion of the transaction initiated when the bonds were issued. Since this is viewed as a transaction with shareholders, no gain or loss should be recognized.

Ex. 16-82—Convertible debt and debt with warrants.

What accounting treatment is required for convertible debt? Why? What accounting treatment is required for debt issued with stock warrants? Why?

Solution 16-82

Convertible debt is a hybrid/compound financial instrument and is generally treated as having both a debt component and an equity component. The conversion feature makes the bond more valuable to an investor and therefore the convertible feature has value. Under IFRS, compound instruments must be split into their components and presented separately in the financial statements. IFRS also requires the use of the residual method: the value of the debt component is determined, and the balance is assigned to the equity component (as contributed surplus). ASPE (PE GAAP) allows a zero value to be assigned to the equity component, or the use of the residual method.

When debt is issued with stock warrants, the warrants are also given separate recognition. After issue, the debt and the detachable warrants trade separately. The proceeds may be allocated to the two elements based on the relative fair values of the debt security without the warrants and the warrants at the time of issue, or by the residual method. The proceeds allocated to the warrants should also be accounted for as contributed surplus.

Ex. 16-83—Redeemable preferred shares and succession planning.

Explain how redeemable preferred shares are used in succession planning for small business corporations.

Solution 16-83

In succession planning for a small business, it is advantageous to use high/low redeemable preferred shares. The common shares of the existing company are transferred to a new company on a tax deferred basis. The retiring family member receives new redeemable preferred shares that freezes their interest at the current value of the business. These shares may be redeemed over time. The next generation of the family receives the new common shares which will result in any future increase in value of the business belonging to them.

Ex. 16-84—Stock options.

Prepare the necessary entries from January 1, 2011 to February 1, 2013 for the following events. If no entry is needed, write "No entry necessary."

- On January 1, 2011, the shareholders of Mynah Byrd Inc. adopted a stock option plan for its top executives, where each could receive rights to purchase up to 7,000 common shares at \$40 per share. At this date, the shares were trading for \$52 per share.
- On February 1, 2011, options were granted to five executives to purchase 7,000 shares each. The options were non-transferable and the executive had to remain an employee of the company to exercise the option. The options expire on February 1, 2013. It is assumed that the options were for services performed equally in 2011 and 2012. The Black-Scholes option pricing model determines total compensation expense to be \$780,000.
- On February 1, 2013, four executives exercised their options. The fifth executive chose not to exercise her options, which therefore were forfeited.

Solution 16-84

| | | | |
|----|---|-----------|-----------|
| 1. | <u>January 1, 2011</u> | | |
| | No entry necessary. | | |
| 2. | <u>February 1, 2011</u> | | |
| | No entry necessary. | | |
| | <u>December 31, 2011</u> | | |
| | Compensation Expense (\$780,000/2) | 390,000 | |
| | Contributed Surplus—Stock Options | | 390,000 |
| | <u>December 31, 2012</u> | | |
| | Compensation Expense | 390,000 | |
| | Contributed Surplus—Stock Options | | 390,000 |
| 3. | <u>February 1, 2013</u> | | |
| | Cash (4 × 7,000 × \$40) | 1,120,000 | |
| | Contributed Surplus—Stock Options (\$780,000 × 4/5) | 624,000 | |
| | Common Shares | | 1,744,000 |
| | Contributed Surplus—Stock Options (\$780,000 - \$624,000) | 156,000 | |
| | Contributed Surplus—Expired Stock Options | | 156,000 |

Ex. 16-85—Employee share ownership plans.

Lydia Inc. set up an ESOP under which employees may purchase shares of the company for \$20 per share. The option premium is \$.50 per share and Lydia set aside 20,000 shares. On January 1, 2012, 12,000 options are purchased by employees. On December 1, 2012, all 12,000 options are exercised.

Instructions

Prepare the journal entries to record the above events.

Solution 16-85

| | | |
|---|---------|---------|
| <u>January 1, 2012</u> | | |
| Cash (12,000 × \$.50)..... | 6,000 | |
| Contributed Surplus—Stock Options | | 6,000 |
| <u>December 1, 2012</u> | | |
| Cash (12,000 × \$20)..... | 240,000 | |
| Contributed Surplus—Stock Options | 6,000 | |
| Common Shares..... | | 246,000 |

***Ex. 16-86**—Stock appreciation rights.

On January 1, 2011, Hay Ltd. established a stock appreciation rights (SAR) plan for its executives. They could receive cash at any time during the next four years equal to the difference between the market price of the common shares and a pre-established price of \$16 for 180,000 SARs. The market prices are

- Dec 31, 2011—\$21
- Dec 31, 2012—\$18
- Dec 31, 2013—\$19
- Dec 31, 2014—\$20

On December 31, 2013, 40,000 SARs are exercised, and the remaining SARs are exercised on December 31, 2014.

Instructions

- (a) Prepare a schedule that shows the amount of compensation expense for each of the four years, starting with 2011.
- (b) Prepare the journal entry at December 31, 2012 to record compensation expense.
- (c) Prepare the journal entry at December 31, 2014 to record the exercise of the remaining SARs.

***Solution 16-86**

(a) Schedule of Compensation Expense
180,000 SARs

| <u>Date</u> | <u>Market Price</u> | <u>Set Price</u> | <u>Value of SARs</u> | <u>Percent Accrued</u> | <u>Accrued to Date</u> | <u>Expense</u> |
|---------------|---------------------|------------------|----------------------------|------------------------|------------------------------|----------------|
| Dec. 31, 2011 | \$21 | \$16 | \$900,000 | 25% | \$225,000 <u>(45,000)</u> | \$225,000 |
| Dec. 31, 2012 | 18 | 16 | 360,000 | 50% | 180,000 <u>225,000</u> | (45,000) |
| Dec. 31, 2013 | 19 | 16 | 540,000 | 75% | 405,000 <u>155,000</u> | 225,000 |
| Dec. 31, 2014 | 20 | 16 | 560,000 (\$4 × 140,000) | 100% | 560,000 | 155,000 |

| | | | |
|-----|---|---------|---------|
| (b) | Liability Under Stock Appreciation Plan | 45,000 | |
| | Compensation Expense | | 45,000 |
| (c) | Liability Under Stock Appreciation Plan | 560,000 | |
| | Cash | | 560,000 |

PROBLEMS

Pr. 16-87—Forward contract.

Holmes Home Builders Ltd. uses fir 2x6 lumber as its framing material. On November 15, 2012, Holmes enters into a forward contract for 1,500,000 board feet of lumber at \$0.25 per board foot for March 2013 delivery. At December 31, 2012, the market price for March delivery is \$0.26. On March 5, 2013, Holmes took delivery of 1,500,000 board feet for \$0.25 and settles the forward contract. The market rate on this date was \$0.28 per board foot.

Instructions

Record any required entries related to this contract.

Solution 16-87

| | | | | |
|----|--|--------------------------|---------|---------|
| | | <u>November 15, 2012</u> | | |
| a. | No entry. | | | |
| | | <u>December 31, 2012</u> | | |
| b. | Record gain to date | | | |
| | Derivatives – Financial Assets/Liabilities..... | | 15,000 | |
| | Gain $(\$0.26 - \$0.25) \times 1,500,000$ | | | 15,000 |
| | | <u>March 5, 2013</u> | | |
| c. | Settlement of futures contract | | | |
| | Inventory $(\$0.28 \times 1,500,000)$ | | 420,000 | |
| | Derivatives – Financial Assets/Liabilities | | | 15,000 |
| | Gain | | | 30,000 |
| | Cash $(\$0.25 \times 1,500,000)$ | | | 375,000 |

Pr. 16-88—Convertible bonds and warrants.

For each of the unrelated situations described below, prepare the entry(ies) required to record the transactions.

- On August 1, 2012, Alpha Corporation called its 10% convertible bonds for conversion. The \$4,000,000 par value bonds were converted into 160,000 no par common shares. On August 1, there was \$350,000 of unamortized premium applicable to the bonds. At the time of issuance, Contributed Surplus—Conversion Rights was credited for \$150,000, which represented the equity portion of the convertible bonds, and the market value of the common shares was \$20 per share. The company records the conversion using the book value method. Ignore all interest payments.
- Beta Inc. issues 10% convertible bonds, par \$1,000,000, at 97. The investment banker indicates that if the bonds had not been convertible they would have sold at 94. Use the residual method.

Pr. 16-88 (Continued)

- Gamma Ltd. issues \$2,000,000 par value, 8% bonds. To help the sale, detachable stock warrants are issued at the rate of ten warrants for each \$1,000 bond sold. It is estimated that the value of the bonds without the warrants is \$1,974,000 and the value of the warrants is \$126,000. The bonds with the warrants sold at 101. Use the residual method.

Solution 16-88

| | | |
|--|-----------|-----------|
| 1. Bonds Payable (\$4,000,000 + \$350,000) | 4,350,000 | |
| Contributed Surplus—Conversion Rights | 150,000 | |
| Common Shares..... | | 4,500,000 |
| 2. Cash | 970,000 | |
| Bonds Payable (\$1,000,000 x 94%)..... | | 940,000 |
| Contributed Surplus—Conversion Rights..... | | 30,000 |
| 3. Cash (\$2,000,000 x 101%)..... | 2,020,000 | |
| Bonds Payable | | 1,974,000 |
| Contributed Surplus—Stock Warrants | | 46,000 |

Pr. 16-89—Employee stock options.

On November 1, 2010, Logan Corp. adopted a stock option plan allowing some of their executives to purchase a total of 30,000 common shares. The options were granted on January 2, 2011, and were exercisable four years after the grant date (Jan 2, 2015), as long as the executives were still employees. The options expire eight years from the grant date. The exercise price was set at \$46 and, using an option pricing model to value the options, the total compensation expense was estimated to be \$510,000. At January 2, 2011, the market price of the shares was \$49.

On January 1, 2012, 3,000 options were terminated (forfeited) when an employee left the company. The market value of the shares at that date was \$32. All the remaining options were exercised during 2015: 17,000 on January 3 when the market price was \$62, and 10,000 on May 1 when the market price was \$77.

Instructions

- Calculate the intrinsic value and the time value of the stock option.
- Prepare journal entries relating to the stock option plan for the years 2011 through 2015. Assume that the employees perform services equally from 2011 through 2014. Year end is December 31.
- Discuss the advantages and disadvantages of offering stock options to employees as a means of compensation.

Solution 16-89

- a) The intrinsic value of the option is the difference between the market price and the strike (exercise) price. In this case the market price is \$49 and the strike price is \$46.

Intrinsic value component: $(\$49 - \$46) \times 30,000 = \$90,000$

The time value of the option is the remaining value of the options. Since the total value of the options is \$510,000, then the difference between the total value and the intrinsic value should be attributed to the time value component.

Time value component: $\$510,000 - \$90,000 = \$420,000$

- b)

| | | | |
|-----------|-------------------------------------|---------|-----------|
| Jan 2/11 | No entry required | | |
| Dec 31/11 | Compensation Expense | 127,500 | |
| | Contributed Surplus - Stock Options | | 127,500 |
| Jan 1/12 | Contributed Surplus - Stock Options | 12,750 | |
| | Compensation Expense | | 12,750 |
| Dec 31/12 | Compensation Expense | 114,750 | |
| | Contributed Surplus - Stock Options | | 114,750 |
| Dec 31/13 | Compensation Expense | 114,750 | |
| | Contributed Surplus - Stock Options | | 114,750 |
| Dec 31/14 | Compensation Expense | 114,750 | |
| | Contributed Surplus - Stock Options | | 114,750 |
| Jan 3/15 | Cash | 782,000 | |
| | Contributed Surplus - Stock Options | 289,000 | |
| | Common Shares | | 1,071,000 |
| May 1/15 | Cash | 460,000 | |
| | Contributed Surplus - Stock Options | 170,000 | |
| | Common Shares | | 630,000 |

Solution 16-89 (Continued)

Calculation of compensation expense

2011: $\$510,000/4 = \$127,500$

2012: Jan 1 – remove compensation expense related to employee who left
 $\$127,500 \times 3,000/30,000 = \$12,750$.

For 2012, 2013 & 2014

New annual compensation expense: $(\$510,000/4) - \$12,750$ or $\$127,500 \times 90\% = \$114,750$.

Jan 3/15

Dr to Cash 17,000 x \$46 = \$782,000

Dr to Contributed Surplus $\$459,000 \times 17/27 = \$289,000$

May 1/15

Dr to Cash 10,000 x \$46 = \$460,000

Dr to Contributed Surplus $\$459,000 \times 10/27 = \$170,000$

c) There are several advantages and disadvantages to the use of stock options as compensation.

Advantages

- This type of compensation is tied to performance which should motivate employees to work hard.
- The mandatory service period helps to retain employees. If employees become more productive over time, as they become more experienced, then the firm benefits.
- Employees become shareholders if they exercise the options. This ensures that they will act in the best interests of the company.
- Employees will benefit from any appreciation of the stock price.

Disadvantages

- Employees might be low risk tolerant and therefore not like the risk inherent in stock options.
- If employees do not understand the value of the options, they will not consider it a benefit and might ask for additional pay instead, so the firm will end up paying them more.
- Employees have limited ability to affect the stock price, so the stock options might not motivate them to work hard.

***Pr. 16-90**—Interest rate swap.

On January 1, 2012, Maquino Ltd. issues a floating rate bond for \$1,000,000. At the same time Maquino enters into an interest rate swap whereby it agrees to pay interest on \$1,000,000 at 105 (the current interest rate) and to receive payments based on the floating rate. At December 31, 2012, the interest rate is 8%. The swap contract value is \$80,000 to the counterparty’s benefit.

Instructions

Prepare any journal entries required related to the swap agreement and the interest payment on the bond.

***Solution 16-90**

| | | | |
|----|---|--------|--------|
| | <u>January 1, 2012</u> | | |
| a. | No entry | | |
| | <u>December 31, 2012</u> | | |
| b. | Payment of bond interest | | |
| | Interest Expense (\$1,000,000 × .08) | 80,000 | |
| | Cash | | 80,000 |
| c. | Payment of swap interest (net) | | |
| | Interest Expense (\$100,000 – \$80,000) | 20,000 | |
| | Cash | | 20,000 |
| d. | Record swap contract liability | | |
| | Other Comprehensive Income—Unrealized Holding Loss..... | 80,000 | |
| | Swap Contract—Liability | | 80,000 |

***Pr. 16-91**—Hedging (forward contract).

On May 1, 2012, Moonbucks Corp, a coffee wholesaler, placed an order with its supplier for six tons of coffee beans, to be delivered and paid for on September 30, 2012. At this time, the spot (current) price for one ton of coffee is \$3,000, and the future (forward) price for September 30, 2012 delivery is \$2,900. Thus, Moonbucks decided to enter into a forward contract for six tons of coffee at \$2,900 per ton for September 30, 2012 delivery. It designated the contract as a cash flow hedge. The contract further calls for a net cash settlement.

Moonbucks’ year end is June 30, 2012. At that date the spot price was \$2,980, the future price for three month delivery was \$2,880, and the future price for five month delivery was \$2,850.

On September 30, 2012, when the spot price was \$2,940 and the future price for five month delivery was \$2,980, the company took delivery of the coffee, paid its supplier and settled the forward contract.

On October 31, 2012, Moonbucks sold three tons of coffee from this delivery to Java Unlimited for \$3,400 per ton.

Assume all prices are in Canadian dollars (CAD).

Instructions

- Given the information above, should Moonbucks have hedged this transaction? Why? Would your answer be different if the future price were \$3,100?
- Prepare journal entries for the following dates: May 1, June 30, September 30 and October 31. Moonbucks is a publicly traded corporation and follows IFRS requirements.

***Solution 16-91**

1. The decision of whether or not to hedge this transaction should depend on whether or not the company desires to eliminate the market risk associated with the fluctuation in the coffee price. There is an optimal level of risk a firm desires to take on, and accordingly a decision should be made. The future price should not affect the decision as it represents the market expectations of the price at the time the company will take delivery and pay for the coffee. The future price will affect the decision only in case the company has different expectations than the market about the future price. Because Moonbucks is not a currency speculator, but makes its profits from selling coffee, it would make sense for this company to lower its market risk and hedge the transaction.

2.

May 1: No entry. The contract value is zero. Memo entry only.

June 30 (year end)

| | | |
|------------------------------------|-----|-----|
| Unrealized Holding Gain/Loss (OCI) | 120 | |
| Financial Instrument - Derivative | | 120 |
| 6 x (\$2,880 – \$2,900) = 120 | | |

September 30 (settlement of contract)

| | | |
|--------------------------------------|--------|--------|
| Cash | 240 | |
| Financial Instrument - Derivative | 120 | |
| Unrealized Holding Gain/Loss (OCI) | | 360 |
| 6 x (\$2,940 – \$2, 880) = 360 | | |
| Inventory (\$2,940 x 6 – spot price) | 17,640 | |
| Cash | | 17,640 |

***Solution 16-91 (Continued)**

October 31 (sale of coffee, assume for cash)

| | | |
|------------------------------------|--------|--------|
| Cash (\$3,400 x 3) | 10,200 | |
| Sales Revenue | | 10,200 |
| Cost of Goods Sold (\$2,940 x 3) | 8,820 | |
| Inventory | | 8,820 |
| Unrealized Holding Gain/Loss (OCI) | 120 | |
| Cost of Goods Sold | | 120 |
| Gain/Loss = (360 – 120) x 1/2 | | |

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CHAPTER 17

EARNINGS PER SHARE

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|---|
| c | 1. | Simple capital structure. |
| d | 2. | Calculating EPS for a simple capital structure. |
| d | 3. | Weighted average of common shares outstanding. |
| c | 4. | Contingently issuable shares. |
| a | 5. | IFRS nomenclature. |
| c | 6. | Effect of treasury shares on EPS. |
| d | 7. | Diluted EPS. |
| b | 8. | Dilutive convertible securities. |
| a | 9. | Cumulative convertible preferred shares effect on EPS. |
| d | 10. | Treasury shares method. |
| a | 11. | Treasury shares method. |
| b | 12. | Treasury shares method. |
| d | 13. | Antidilutive securities. |
| d | 14. | EPS calculation with two dilutive convertible securities. |
| b | 15. | Reverse treasury shares method. |
| d | 16. | Choose incorrect statement. |
| b | 17. | Choose correct statement. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|--|
| c | 18. | Weighted average of common shares outstanding. |
| c | 19. | Weighted average of common shares outstanding. |
| b | 20. | Weighted average of common shares outstanding. |
| b | 21. | Diluted EPS with convertible bonds. |
| c | 22. | Diluted EPS with convertible bonds. |
| b | 23. | Diluted EPS with convertible bonds. |
| c | 24. | Diluted EPS. |
| b | 25. | Basic EPS with convertible bonds and convertible preferred shares. |
| c | 26. | Diluted EPS. |
| b | 27. | Denominator in calculating basic EPS and diluted EPS with convertible bonds. |
| b | 28. | Shares outstanding for basic EPS and diluted EPS. |
| b | 29. | Basic EPS with convertible preferred shares. |
| c | 30. | Basic EPS with convertible preferred shares. |
| b | 31. | Diluted EPS with convertible bonds. |
| a | 32. | Basic EPS and diluted EPS with convertible bonds issued during year. |
| c | 33. | Basic EPS with convertible preferred shares and convertible bonds. |
| b | 34. | Diluted EPS with convertible preferred shares and convertible bonds. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description (Continued) |
|--------|-----|---|
| c | 35. | Diluted EPS using the treasury shares method. |
| b | 36. | Diluted EPS using the treasury shares method. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|---|
| b | 37. | Number of shares to calculate diluted EPS. |
| b | 38. | Calculate basic EPS. |
| b | 39. | Calculate basic EPS. |
| d | 40. | Calculate diluted EPS. |
| b | 41. | Effect of dividends on nonconvertible preferred shares. |
| a | 42. | "If-converted" method. |

EXERCISES

| Item | Description |
|--------|---|
| E17-43 | Weighted average of common shares outstanding. |
| E17-44 | Earnings per share (definitions). |
| E17-45 | Effect of dilutive securities on earnings per share calculations. |
| E17-46 | Diluted earnings per share. |
| E17-47 | Basic and diluted earnings per share. |
| E17-48 | Basic and diluted earnings per share. |

PROBLEMS

| Item | Description |
|--------|---------------------------------------|
| P17-49 | Diluted earnings per share. |
| P17-50 | Basic and diluted earnings per share. |
| P17-51 | Basic and diluted earnings per share. |
| P17-52 | Basic and diluted earnings per share. |
| P17-53 | Weighted average calculations. |
| P17-54 | Basic earnings per share |
| P17-55 | Basic and diluted earnings per share |
| P17-56 | Basic and diluted earnings per share |

MULTIPLE CHOICE—Conceptual

1. With respect to the calculation of earnings per share, which of the following would be most indicative of a simple capital structure?
 - a. Common shares and convertible bonds.
 - b. Earnings derived from one primary line of business.
 - c. Common shares and non-convertible preferred shares.
 - d. Common shares and convertible preferred shares.

2. In calculating basic earnings per share, if the preferred shares are cumulative, the amount that should be deducted as an adjustment to the numerator is the
 - a. preferred dividends in arrears.
 - b. preferred dividends in arrears times (one minus the income tax rate).
 - c. annual preferred dividend times (one minus the income tax rate).
 - d. annual preferred dividend.

3. In calculating the weighted average of common shares outstanding, when a stock dividend or stock split occurs, the additional shares are
 - a. ignored.
 - b. weighted by the number of months outstanding.
 - c. considered outstanding at the beginning of the year.
 - d. considered outstanding at the beginning of the earliest year reported.

4. When a corporation agrees to issue common shares if some specific future event occurs, such shares are known as
 - a. potential treasury shares.
 - b. potential common shares.
 - c. contingently issuable shares.
 - d. convertible common shares.

5. Under IFRS, common shares are also called
 - a. ordinary shares.
 - b. potential shares.
 - c. treasury shares.
 - d. non-dilutive shares.

6. What effect will the acquisition of treasury shares have on shareholders' equity and basic earnings per share, respectively?

| | <u>Shareholders equity</u> | <u>Basic EPS</u> |
|----|----------------------------|------------------|
| a. | Decrease | No effect |
| b. | Increase | No effect |
| c. | Decrease | Increase |
| d. | Increase | Decrease |

7. When calculating diluted earnings per share, convertible bonds are
 - a. ignored.
 - b. assumed converted whether they are dilutive or antidilutive.
 - c. assumed converted only if they are antidilutive.
 - d. assumed converted only if they are dilutive.

8. Dilutive convertible securities must be used in the calculation of
 - a. silly question: such securities are never included.
 - b. basic earnings per share only.
 - c. diluted earnings per share only.
 - d. diluted and basic earnings per share.

9. In calculating diluted earnings per share, the equivalent number of convertible preferred shares are added as an adjustment to the denominator. If the preferred shares are cumulative, which amount should then be added as an adjustment to the numerator?
 - a. Annual preferred dividend.
 - b. Annual preferred dividend times (one minus the income tax rate).
 - c. Annual preferred dividend times the income tax rate.
 - d. Annual preferred dividend divided by the income tax rate.

10. In calculating diluted earnings per share, the treasury shares method is used for call options and warrants to reflect assumed reacquisition of common shares at the average market price during the period. If the exercise price of the options or warrants exceeds the average market price, the calculation would
 - a. fairly present diluted earnings per share on a prospective basis.
 - b. fairly present the maximum potential dilution of diluted earnings per share on a prospective basis.
 - c. reflect the excess of the number of shares assumed issued over the number of shares assumed reacquired as the potential dilution of earnings per share.
 - d. be antidilutive.

11. In applying the treasury shares method to determine the dilutive effect of options and warrants, the proceeds assumed to be received upon exercise of the options and warrants
 - a. are used to calculate the number of common shares repurchased at the average market price, when calculating diluted earnings per share.
 - b. are added, net of tax, to the numerator of the calculation for diluted earnings per share.
 - c. are disregarded in the calculation of earnings per share if the exercise price of the options and warrants is less than the ending market price of common shares.
 - d. are not included in the calculation.

12. When applying the treasury shares method for diluted earnings per share, the price of the common shares used for the assumed repurchase is the
 - a. market price at the end of the year.
 - b. average market price during the year.
 - c. market price at the beginning of the year.
 - d. market price at the time the options or warrants were granted.

13. Antidilutive securities
- should be included in the calculation of diluted earnings per share but not basic earnings per share.
 - are those whose inclusion in earnings per share calculations would cause basic earnings per share to exceed diluted earnings per share.
 - include call options and warrants whose exercise price is less than the average market price of common shares.
 - should be ignored in all earnings per share calculations.
14. Assume a corporation has two potentially dilutive convertible securities outstanding. The one that should be used first to calculate diluted earnings per share is the security with the
- greater earnings adjustment.
 - greater earnings per share adjustment.
 - smaller earnings adjustment.
 - smaller earnings per share adjustment.
15. The reverse treasury stock method is used for
- written call options.
 - written put options.
 - convertible preferred shares.
 - convertible bonds.
16. Which of the following statements is *incorrect*?
- Options that are out of the money are ignored in earnings per share calculations.
 - The treasury stock method is used for written call options.
 - Corporations that have only antidilutive securities are not permitted to increase their earnings per share and are required to report only basic earnings per share.
 - Contingently issuable shares are never included in diluted earnings per share calculations.
17. Which of the following statements is *correct*?
- Options that are in the money are ignored in earnings per share calculations.
 - Options that are out of the money are ignored in earnings per share calculations.
 - Contingently issuable shares are never included in diluted earnings per share calculations.
 - The treasury stock method is used for written put options.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | c | 4. | c | 7. | d | 10. | d | 13. | d | 16. | d |
| 2. | d | 5. | a | 8. | b | 11. | a | 14. | d | 17. | b |
| 3. | d | 6. | c | 9. | a | 12. | b | 15. | b | | |

MULTIPLE CHOICE—Computational

18. At January 1, 2012, Alpha Corp had 600,000 common shares outstanding (no preferred shares issued). On July 1, 2012, the corporation issued 900,000 shares, and reported net income of \$630,000 for the year ended December 31, 2012. Basic earnings per share for 2012 would be
- \$1.05.
 - \$0.70.
 - \$0.60.
 - \$0.50.
19. At December 31, 2012, Beta Corp had 500,000 common shares outstanding, 400,000 of which were issued and outstanding throughout the year and 100,000 of which were issued on October 1, 2012. Net income for the year ended December 31, 2012, was \$510,000. There are no preferred shares issued. Basic earnings per share for 2012 would be
- \$1.02.
 - \$1.13.
 - \$1.20.
 - \$1.27.
20. At January 1 of this year, Gamma Ltd had 600,000 common shares outstanding (no preferred shares issued). During this year, they issued 84,000 shares on May 1, purchased 42,000 treasury shares on September 1, and issued 36,000 more shares on November 1. The weighted average of common shares outstanding for this year is
- 634,000.
 - 648,000.
 - 662,000.
 - 676,000.
21. On January 2, 2012, Delta Inc issued at par \$10,000 of 6% bonds convertible into 1,000 of their common shares. No bonds were converted during 2012. Throughout 2012, Delta had 1,000 common shares outstanding (no preferred shares issued). Delta's 2012 net income was \$6,000, and their income tax rate is 30%. No potentially dilutive securities other than the convertible bonds were outstanding during 2012. Delta's diluted earnings per share for 2012 would be
- \$3.00.
 - \$3.21.
 - \$3.30.
 - \$6.42.

22. At December 31, 2011, Epsilon Ltd had 500,000 common shares outstanding (no preferred shares issued). On October 1, 2012, an additional 100,000 common shares were issued. In addition, Epsilon had \$5,000,000 of 6% convertible bonds outstanding at December 31, 2011, which are convertible into 225,000 common shares. No bonds were converted in 2012. The net income for the year ended December 31, 2012 was \$1,500,000. Assuming the income tax rate was 30%, the diluted earnings per share for 2012 would be
- \$3.26.
 - \$2.40.
 - \$2.28.
 - \$2.00.
23. On January 2, 2012, Zeta Ltd issued at par \$300,000 of 9% convertible bonds. Each \$1,000 bond is convertible into 30 shares. No bonds were converted during 2012. There were 50,000 common shares outstanding during 2012 (no preferred shares issued). Zeta's 2012 net income was \$160,000 and the income tax rate was 30%. Zeta's diluted earnings per share for 2012 would be
- \$2.71.
 - \$3.03.
 - \$3.20.
 - \$3.58.
24. At December 31, 2011, Eta Corp had 800,000 common shares outstanding. In addition, Eta had 300,000 non-cumulative preferred shares outstanding, which were convertible into 500,000 common shares. During 2012, Eta paid cash dividends of \$300,000 to the common shares and \$200,000 to the preferred shares. Net income for 2012 was \$1,700,000 and the income tax rate was 40%. Diluted earnings per share for 2012 is
- \$0.93.
 - \$1.26.
 - \$1.31.
 - \$1.88.

Use the following information for questions 25 and 26.

During 2012, Theta Ltd had 200,000 common shares, 30,000 non-cumulative convertible preferred shares, and \$1,500,000 of 10% convertible bonds outstanding. The preferred shares are convertible into 40,000 common shares. During 2012, Theta paid dividends of \$1.20 per share to the common shares and \$3.00 per share to the preferred shares. Each \$1,000 bond is convertible into 45 common shares. The net income for 2012 was \$900,000 and the income tax rate was 30%.

25. Basic earnings per share for 2012 is
- \$3.75.
 - \$4.05.
 - \$4.29.
 - \$4.50.

26. Diluted earnings per share for 2012 is
- \$2.98.
 - \$3.38.
 - \$3.27.
 - \$3.41.
27. At December 31, 2011, Iota Inc had 6,000,000 common shares outstanding. An additional 1,000,000 common shares were issued on April 1, 2012, and 500,000 more on July 1, 2012. On October 1, 2012, Iota issued 25,000, \$1,000 par value, 8% convertible bonds. Each bond is convertible into 20 common shares. No bonds were converted in 2012. What is the number of shares to be used in calculating 2012 basic earnings per share and diluted earnings per share, respectively?
- 7,000,000 and 7,000,000.
 - 7,000,000 and 7,125,000.
 - 7,000,000 and 7,500,000.
 - 7,500,000 and 8,500,000.
28. At December 31, 2011, Kappa Corp. had 1,000,000 common shares outstanding (no preferred shares issued). An additional 100,000 shares were issued on April 1, 2012, and 240,000 more on September 1. On October 1, Kappa issued \$3,000,000 (par value) 9% convertible bonds. Each \$1,000 bond is convertible into 40 common shares. No bonds have been converted yet. The number of shares to be used in calculating basic earnings per share and diluted earnings per share for 2012 is
- 1,155,000 and 1,155,000.
 - 1,155,000 and 1,185,000.
 - 1,155,000 and 1,275,000.
 - 1,540,000 and 1,660,000.
29. At December 31, 2011, Lambda Ltd had 2,000,000 common shares outstanding. On January 1, 2012, Lambda issued 500,000 non-cumulative preferred shares, which were convertible into 1,000,000 common shares. During 2012, Lambda paid cash dividends of \$900,000 to the common shares and \$300,000 to the preferred shares. Net income for the year ended December 31, 2012, was \$3,000,000. Assuming an income tax rate of 30%, the diluted earnings per share for 2012 is
- \$0.90.
 - \$1.00.
 - \$1.40.
 - \$1.50.
30. At December 31, 2011, Mu Corporation had 300,000 common shares outstanding. No additional common shares were issued during 2012. On January 1, 2012, Mu issued 400,000 non-cumulative, non-convertible preferred shares. During 2012, Mu paid cash dividends of \$180,000 to the common shares and \$150,000 to the preferred shares. Net income for the year ended December 31, 2012, was \$960,000. Their income tax rate is 40%. Basic earnings per share for 2012 is
- \$1.16.
 - \$2.10.
 - \$2.70.
 - \$3.20.

31. At December 31, 2011, Nu Corporation had 900,000 common shares outstanding (no preferred shares issued). On September 1, 2012, an additional 300,000 common shares were issued. In addition, Nu had \$10,000,000 (par value) 6% convertible bonds outstanding at December 31, 2011, which are convertible into 600,000 common shares. No bonds were converted in 2012. The net income for the year ended December 31, 2012, was \$3,750,000. Assuming the income tax rate was 30%, the diluted earnings per share for 2012 is
- \$2.35.
 - \$2.61.
 - \$2.72.
 - \$3.75.
32. At December 31, 2011, Omicron Limited had 4,000,000 common shares outstanding (no preferred shares issued). An additional 250,000 common shares were issued on July 1, 2012, and 500,000 more on October 1, 2012. As well, on April 1, 2012, Omicron issued 10,000, \$1,000 face value, 8% convertible bonds. Each bond is convertible into 40 common shares. No bonds were converted in 2012. What is the number of shares to be used in calculating basic earnings per share and diluted earnings per share, respectively, for 2012?
- 4,250,000 and 4,550,000.
 - 4,250,000 and 4,250,000.
 - 4,250,000 and 4,650,000.
 - 4,750,000 and 5,050,000.

Use the following information for questions 33 and 34.

Information concerning the capital structure of Rho Corporation follows:

| | December 31, | |
|------------------------------|----------------|----------------|
| | 2012 | 2011 |
| Common shares | 100,000 shares | 100,000 shares |
| Convertible preferred shares | 10,000 shares | 10,000 shares |
| 9% convertible bonds | \$2,000,000 | \$2,000,000 |

During 2012, Rho paid dividends of \$1.00 per common share and \$2.50 per preferred shares. The preferred shares are convertible into 20,000 common shares. The 9% convertible bonds are convertible into 50,000 common shares. The net income for the year ended December 31, 2012, was \$500,000. Assume that the income tax rate was 30%.

33. Basic earnings per share for 2012 is
- \$3.33.
 - \$3.65.
 - \$4.75.
 - \$5.00.

34. Diluted earnings per share for 2012 is
 a. \$4.00.
 b. \$3.68.
 c. \$3.54.
 d. \$2.94.
35. Warrants exercisable at \$20 each to obtain 50,000 common shares were outstanding during a period when the average market price of the common shares was \$25. Application of the treasury shares method for the assumed exercise of these warrants in calculating diluted earnings per share will increase the weighted average number of outstanding shares by
 a. 50,000.
 b. 40,000.
 c. 10,000.
 d. 12,500.
36. At December 31, 2012, Sigma Inc had 300,000 common shares outstanding (no preferred shares issued). In addition, the corporation had granted 90,000 stock options to certain executives, and which gave them the right to purchase Sigma's shares at the option price of \$37 per share. None of these options had been exercised yet. The average market price of Sigma's common shares during 2012 was \$50. What is the number of shares that should be used in calculating diluted earnings per share for 2012?
 a. 300,000.
 b. 323,400.
 c. 331,622.
 d. 366,600.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 18. | c | 21. | b | 24. | c | 27. | b | 30. | c | 33. | c | 36. | b |
| 19. | c | 22. | c | 25. | b | 28. | b | 31. | b | 34. | b | | |
| 20. | b | 23. | b | 26. | c | 29. | b | 32. | a | 35. | c | | |

MULTIPLE CHOICE—CPA Adapted

37. At December 31, 2011, Tau Inc. had 500,000 common shares outstanding (no preferred shares issued). On July 1, 2012, an additional 50,000 common shares were issued. Tau also had unexercised call options to purchase 40,000 common shares at \$15 per share outstanding throughout 2012. The average market price of Tau's common shares was \$20 during 2012. The number of shares that should be used in calculating diluted earnings per share for 2012 is
- 525,000.
 - 555,000.
 - 560,000.
 - 565,000.
38. At December 31, 2011, Upsilon Corp had 300,000 common shares outstanding. No common shares were issued during 2012; however, on January 1, 2012, Upsilon issued 200,000 non-cumulative, non-convertible preferred shares. During 2012, Upsilon paid cash dividends of \$100,000 to the common shareholders and \$80,000 to the preferred shareholders. Net income for the year ended December 31, 2012 was \$620,000. Basic earnings per share for 2012 would be
- \$2.07.
 - \$1.80.
 - \$1.73.
 - \$1.47.
39. At December 31, 2011 and 2012, Phi Corp. had 100,000 common shares and 10,000, \$5, no par value cumulative preferred shares outstanding. No dividends were declared in 2011 or 2012. Net income for 2012 was \$400,000. For 2012, basic earnings per share would be
- \$4.00.
 - \$3.50.
 - \$3.00.
 - \$2.00.
40. Throughout 2012, Omega Ltd had 1,200,000 common shares outstanding. In connection with the acquisition of a subsidiary company in June 2011, Omega is required to issue 50,000 additional common shares on July 1, 2013, to the former owners of the subsidiary. Omega paid \$300,000 in preferred share dividends in 2012, and reported net income of \$5,100,000 for 2012. Omega's diluted earnings per share for 2012 should be
- \$4.25.
 - \$4.08.
 - \$4.00.
 - \$3.84.

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41. In calculating diluted earnings per share, dividends on non-convertible cumulative preferred shares should be
- ignored.
 - deducted from net income whether declared or not.
 - deducted from net income only if declared.
 - added back to net income whether declared or not.
42. The if-converted method of calculating earnings per share data assumes conversion of convertible securities as of the
- beginning of the earliest period reported (or at time of issuance, if later).
 - beginning of the earliest period reported (regardless of time of issuance).
 - middle of the earliest period reported (regardless of time of issuance).
 - ending of the earliest period reported (regardless of time of issuance).

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 37. | b | 38. | b | 39. | b | 40. | d | 41. | b | 42. | a |

DERIVATIONS — Computational

| No. | Answer | Derivation |
|-----|--------|---|
| 18. | c | $\frac{\$630,000}{600,000 + \left(900,000 \times \frac{6}{12}\right)} = \$0.60.$ |
| 19. | c | $\frac{\$510,000}{400,000 + \left(100,000 \times \frac{3}{12}\right)} = \$1.20.$ |
| 20. | b | $600,000 + (84,000 \times 8/12) - (42,000 \times 4/12) + (36,000 \times 2/12) = 648,000.$ |
| 21. | b | $\frac{\$6,000 + (\$10,000 \times .06 \times .70)}{1,000 + 1,000} = \$3.21.$ |
| 22. | c | $\frac{\$1,500,000 + (\$5,000,000 \times .06 \times .7)}{500,000 + \left(100,000 \times \frac{3}{12}\right) + 225,000} = \$2.28.$ |
| 23. | b | $\frac{\$160,000 + (\$300,000 \times .09 \times .7)}{50,000 + [(\$300,000 \div \$1,000) \times 30]} = \$3.03.$ |
| 24. | c | $\frac{\$1,700,000}{800,000 + 500,000} = \$1.31.$ |
| 25. | b | $\frac{\$900,000 - (30,000 \times \$3)}{200,000} = \$4.05.$ |
| 26. | c | $\frac{\$900,000 + (\$1,500,000 \times .10 \times .7)}{200,000 + 67,500 + 40,000} = \$3.27.$ |
| 27. | b | $6,000,000 + (1,000,000 \times 9/12) + (500,000 \times 6/12) = 7,000,000 \text{ (BEPS).}$ $7,000,000 + (25,000 \times 20 \times 3/12) = 7,125,000 \text{ (DEPS).}$ |
| 28. | b | $1,000,000 + (100,000 \times 9/12) + (240,000 \times 4/12) = 1,155,000 \text{ (BEPS).}$ $1,155,000 + [(\$3,000,000 \div \$1,000) \times 40 \times 3/12] = 1,185,000 \text{ (DEPS).}$ |
| 29. | b | $\frac{\$3,000,000}{2,000,000 + 1,000,000} = \$1.00.$ |

| No. | Answer | Derivation |
|-----|--------|---|
| 30. | c | $\frac{\$960,000 - \$150,000}{300,000} = \$2.70.$ |
| 31. | b | $\frac{\$3,750,000 + (\$10,000,000 \times .06 \times .7)}{900,000 + (300,000 \times 4/12) + 600,000} = \$2.61.$ |
| 32. | a | 4,000,000 + (250,000 × 6/12) + (500,000 × 3/12) = 4,250,000 (BEPS). 4,250,000 + (10,000 × 40 × 9/12) = 4,550,000 (DEPS). |
| 33. | c | $\frac{\$500,000 - (10,000 \times \$2.50)}{100,000} = \$4.75.$ |
| 34. | b | $\frac{\$500,000 + (\$2,000,000 \times .09 \times .7)}{100,000 + 50,000 + 20,000} = \$3.68.$ |
| 35. | c | 50,000 × \$20 ÷ \$25 = 40,000 50,000 – 40,000 = 10,000. |
| 36. | b | 90,000 – (90,000 × \$37 ÷ \$50) = 23,400 300,000 + 23,400 = 323,400. |

DERIVATIONS — CPA Adapted

| No. | Answer | Derivation |
|-----|--------|--|
| 37. | b | 500,000 + (50,000 × 6/12) + (40,000 × \$15 ÷ \$20) = 555,000. |
| 38. | b | $\frac{\$620,000 - \$80,000}{300,000} = \$1.80.$ |
| 39. | b | $\frac{\$400,000 - (10,000 \times \$5.00)}{100,000} = \$3.50.$ |
| 40. | d | $\frac{\$5,100,000 - \$300,000}{1,200,000 + 50,000} = \$3.84.$ |
| 41. | b | Conceptual. |
| 42. | a | Conceptual. |

EXERCISES

Ex. 17-43—Weighted average shares outstanding.

At January 1, 2012, Yarrow Corporation had 300,000 common shares outstanding (no preferred issued). On March 1, the corporation issued 45,000 new shares to raise additional capital. On July 1, the corporation declared and issued a 2 for 1 stock split. On October 1, the corporation purchased on the open market 180,000 of its own shares at \$35 each and retired them.

Instructions

Calculate the weighted average number of common shares outstanding to be used in calculating earnings per share for 2012.

Solution 17-43

| | <u>Increase (Decrease)</u> | <u>Shares Outstanding</u> | <u>Portion of yr Outstanding</u> | <u>Stock Split</u> | |
|---------|--------------------------------|-------------------------------|--------------------------------------|------------------------|----------------|
| Jan. 1 | | 300,000 | 2/12 | x 2 | 100,000 |
| March 1 | 45,000 | 345,000 | 4/12 | x 2 | 230,000 |
| July 1 | 345,000 | 690,000 | 3/12 | | 172,500 |
| Oct. 1 | (180,000) | 510,000 | 3/12 | | <u>127,500</u> |
| | | | | | <u>630,000</u> |
| | | | Weighted average of common shares | | |

Ex. 17-44—Earnings per share.

Define the following:

- (a) The calculation of earnings per share
- (b) Complex capital structure
- (c) Basic earnings per share
- (d) Diluted earnings per share

Solution 17-44

- (a) Earnings per share is calculated by dividing net income less preferred dividends by the weighted average number of common shares outstanding.
- (b) A complex capital structure exists when a corporation has convertible securities, options, warrants, or other rights that upon conversion or exercise could dilute earnings per share.
- (c) Basic earnings per share is calculated based on the actual common shares outstanding during the period.
- (d) Diluted earnings per share is calculated based on common shares and all potentially dilutive common shares that were outstanding during the period.

Ex. 17-45—Earnings per share.

A publicly accountable enterprise is planning on issuing the following two securities in the coming year:

1. Convertible debt where mandatory conversion will take place five years after issue.
2. Debt with detachable warrants. The warrants can be exercised if profits exceed \$1,000,000 in the next five years.

Instructions

Discuss how these two securities will affect the earnings per share calculation.

Solution 17-45

1. The convertible debt is an example of an instrument that is mandatorily convertible. As a result, it is assumed the conversion has already taken place for calculating earnings per share. The common shares should be treated as if they were outstanding and included in the weighted average of common shares calculation.
2. The second instrument is an example of contingently issuable shares, contingent on profits exceeding \$1,000,000 for the shares to be issued. If this condition is already met, then the shares must be treated as if they are issued. However, if the condition has not been reached, then these shares should not be included in the EPS calculation until the condition has been met.

Ex. 17-46—Diluted earnings per share.

During 2012, Ching Corp had 300,000 common shares outstanding. In addition, at December 31, 2012, 50,000 shares were issuable upon exercise of executive stock options, which require a \$40 cash payment upon exercise (options were granted in 2010). The average market price of the common shares during 2012 was \$50.

Instructions

Calculate the number of shares to be used in determining diluted earnings per share for 2012.

Solution 17-46

| | |
|--|-----------------------|
| Shares outstanding (given) | 300,000 |
| Add: Assumed issuance of stock options | <u>50,000</u> |
| | 350,000 |
| Deduct: Proceeds/Average market price (\$2,000,000 ÷ \$50) | <u>(40,000)</u> |
| Number of shares to use for diluted EPS | <u><u>310,000</u></u> |

Ex. 17-47—Earnings per share.

Throughout the calendar year 2012, Far and Away Corporation has 400,000 common shares outstanding (no preferred shares issued). In addition, the corporation has 5,000, 20-year, 7% bonds outstanding, issued at par in 2010. Each \$1,000 bond is convertible into 20 common shares after September 23, 2013. During the year 2012, the corporation reports net income of \$600,000. Their income tax rate is 30%.

Instructions

Calculate basic and diluted earnings per share for 2012.

Solution 17-47

$$\text{Basic earnings per share: } \frac{\text{Net income}}{\text{Outstanding shares}} = \frac{\$600,000}{400,000} = \$1.50$$

Incremental effect of conversion of bonds:

$$\frac{\text{Bond interest after taxes}}{\text{Assumed incremental shares}} = \frac{\$245,000}{100,000} = \$2.45$$

$$\text{Diluted earnings per share: } \frac{\text{Net income} + \text{Interest after taxes}}{\text{Assumed outstanding shares}}$$

$$(\$350,000 \times .7 = \$245,000); \frac{\$600,000 + \$245,000}{400,000 + 100,000} = \$1.69$$

Therefore the bonds are antidilutive, and basic and diluted earnings per share of \$1.50 should be reported.

Ex. 17-48—Earnings per share.

Baksheesh Inc. reports net income (30% tax rate) of \$1,600,000 for 2012, and an average of 500,000 common shares outstanding during the year. The corporation issued \$2,000,000 par value, 10-year, 9% convertible bonds on January 1, 2010 at a \$18,000 discount. The bonds are convertible into 60,000 common shares. Assume Baksheesh uses the straight-line method for amortizing the bond discount.

Instructions

Calculate basic and diluted earnings per share for 2012.

Solution 17-48

Basic earnings per share

$$(\$1,600,000 \div 500,000 \text{ shares}) = \underline{\underline{\$3.20}}$$

Diluted earnings per share

$$\frac{\$1,600,000 + .7(\$180,000 + \$18,000)}{500,000 + 60,000} = \underline{\underline{\$3.10}}$$

Unauthorized

PROBLEMS

Pr. 17-49—Diluted earnings per share.

On January 1, 2012, Mayberry Corp had 200,000 common shares outstanding. On April 1, 2012, 20,000 common shares were issued and on September 1, Mayberry bought back 30,000 treasury shares. There are 30,000 call options to buy common shares at \$40 a share outstanding. The market price of the common shares averaged \$50 during 2012. The corporation's income tax rate is 40%.

During 2012, there were 20,000, \$7, no par, non-cumulative, convertible preferred shares outstanding. Each preferred share is convertible into three common shares.

Mayberry issued \$2,000,000 of 8% convertible bonds at face value during 2011. Each \$1,000 bond is convertible into 20 common shares.

The corporation reported \$750,000 net income in 2012.

Instructions

Calculate diluted earnings per share for 2012. Complete the schedule and show all calculations.

| <u>Security</u> | <u>Net Income</u> | <u>Adjust- ment</u> | <u>Adjusted Net Income</u> | <u>Shares</u> | <u>Adjust- ment</u> | <u>Adjusted Shares</u> | <u>EPS</u> |
|-----------------|-----------------------|-------------------------|--------------------------------|---------------|-------------------------|----------------------------|------------|
|-----------------|-----------------------|-------------------------|--------------------------------|---------------|-------------------------|----------------------------|------------|

Solution 17-49

| <u>Security</u> | <u>Net Income</u> | <u>Adjust- ment</u> | <u>Adjusted Net Income</u> | <u>Shares</u> | <u>Adjust- ment</u> | <u>Adjusted Shares</u> | <u>EPS</u> |
|-----------------|-----------------------|-------------------------|--------------------------------|---------------|-------------------------|----------------------------|------------|
| Com. Shares | \$750,000 | \$(140,000) | \$610,000 | 200,000 | 5,000 ^a | 205,000 | \$2.98 |
| Options | | | 610,000 | 205,000 | 6,000 ^b | 211,000 | 2.89 |
| Bonds | 610,000 | 96,000 ^c | 706,000 | 211,000 | 40,000 | 251,000 | 2.81 |
| Preferred | 706,000 | 140,000 | 846,000 | 251,000 | 60,000 | 311,000 | 2.72 |

$$\begin{array}{r}
 \text{a } 20,000 \times 3/4 = 15,000 \\
 30,000 \times 1/3 = \underline{(10,000)} \\
 \underline{\quad 5,000} \text{ SA}
 \end{array}$$

$$\begin{array}{r}
 \text{b} \\
 \$1,200,000 \div \$50 = \underline{(24,000)} \\
 \underline{\quad 6,000} \text{ SA}
 \end{array}
 \quad \text{(or) } [(50 - 40) \div 50] \times 30,000 = \underline{6,000} \text{ SA}$$

$$\begin{array}{r}
 \text{c } \$2,000,000 \times .08 \times .6 = \underline{\$96,000} \\
 \frac{\$96,000}{40,000} = \$2.40 \qquad \frac{\$140,000}{60,000} = \$2.33
 \end{array}$$

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Pr. 17-50—Basic and diluted earnings per share.

Eduardo Corp provides the following data for 2012:

| | |
|------------|-------------|
| Net Income | \$2,400,000 |
|------------|-------------|

| <u>Transactions in Common Shares</u> | <u>Change</u> | <u>Cumulative</u> |
|---|---------------|-------------------|
| Jan. 1, 2012, beginning | | 1,000,000 |
| Mar. 1, 2012, purchase of treasury shares | (60,000) | 940,000 |
| June 1, 2012, shares split 2 for 1 | 940,000 | 1,880,000 |
| Nov. 1, 2012, issuance of shares | 120,000 | 2,000,000 |

8% Cumulative Convertible Preferred Shares (no par)

| | |
|--|-------------|
| Convertible into 200,000 common shares adjusted for split on June 1. | \$1,000,000 |
|--|-------------|

Stock Options

Exercisable at the option price of \$25 per share. Average market price in 2012, \$30 (market price and option price adjusted for split). 60,000 shares

Instructions

- (a) Calculate basic earnings per share for 2012.
- (b) Calculate diluted earnings per share for 2012.

Solution 17-50

Calculation of weighted average shares outstanding during the year:

| | | |
|------------|------------------------------------|------------------|
| January 1 | Outstanding | 1,000,000 |
| March 1 | Repurchase ($5/6 \times 60,000$) | <u>(50,000)</u> |
| | | <u>950,000</u> |
| June 1 | 2 for 1 split | 1,900,000 |
| November 1 | Issued ($1/6 \times 120,000$) | <u>20,000</u> |
| | | <u>1,920,000</u> |

Additional shares for purposes of diluted earnings per share:

| | | |
|--|--------------------|----------------|
| Potentially dilutive securities | | |
| 8% convertible preferred shares | | 200,000 |
| Stock options | | |
| Proceeds from exercise of 60,000 options ($60,000 \times \$25$) | <u>\$1,500,000</u> | |
| Shares issued upon exercise of options | 60,000 | |
| Less: treasury shares purchasable with proceeds ($\$1,500,000 \div \30) | <u>50,000</u> | <u>10,000</u> |
| Dilutive securities—additional shares | | <u>210,000</u> |

Solution 17-50 (Continued)

(a) Basic earnings per share: $\frac{\$2,400,000 - \$80,000}{1,920,000} = \$1.21$

(b) Diluted earnings per share: $\frac{\$2,400,000}{1,920,000 + 210,000} = \1.13

Pr. 17-51—Basic and diluted earnings per share.

McNamara Ltd provides the following information for 2012:

| | |
|--|-------------|
| 1. Net Income [including an extraordinary gain (net of tax) of \$160,000] | \$520,000 |
| 2. Capital Structure | |
| a. Cumulative \$8, preferred shares, no par, 6,000 shares issued and outstanding | \$600,000 |
| b. Common shares, 76,000 shares outstanding on January 1. On April 1, 40,000 shares were issued for cash. On October 1, 16,000 shares were purchased and retired. | \$1,000,000 |
| c. On January 2, 2012, McNamara purchased O'Donnell Corporation. One of the terms of the purchase was that if McNamara's net income for 2013 is \$500,000 or more, 50,000 additional common shares would be issued to O'Donnell shareholders. | |
| 3. Other Information | |
| a. Average market price of the common shares during 2012 | \$30 |
| b. Income tax rate | 30% |

Instructions

Calculate basic and diluted earnings per share for 2012.

Solution 17-51

| | |
|--|------------------|
| Net income | \$520,000 |
| Less preferred dividends | <u>(48,000)</u> |
| Income available to common (numerator) | <u>\$472,000</u> |

Weighted average shares outstanding:

| | |
|--|----------------|
| January 1 | 76,000 |
| 3/4 × 40,000 | 30,000 |
| 1/4 × 16,000 | <u>(4,000)</u> |
| Weighted average common shares (denominator) | <u>102,000</u> |

Basic earnings per share: $\$472,000 / 102,000 = \underline{\$4.63}$

Diluted earnings per share: $\$472,000 / (102,000 + 50,000) = \underline{\$3.10}$

Pr. 17-52—Basic and diluted earnings per share.

Satsuma Ltd provides the following information for 2012:

- | | |
|---|------------|
| 1. Net income | \$ 560,000 |
| 2. Capital structure: | |
| a. Convertible 6% bonds. Each of the 300, \$1,000 bonds is convertible into 50 common shares for the next 10 years. | 300,000 |
| b. Common shares, 200,000 shares issued and outstanding during the entire year. | 2,000,000 |
| c. Stock options outstanding to buy 16,000 common shares at \$20 per share. | |
| 3. Other information: | |
| a. Bonds converted during 2012 | None |
| b. Income tax rate | 30% |
| c. Convertible debt was outstanding the entire year | |
| d. Average market price per common share during 2012 | \$32 |
| e. Stock options were outstanding the entire year | |
| f. Stock options exercised during 2012 | None |

Instructions

Calculate basic and diluted earnings per share for 2012.

Solution 17-52

Basic EPS = $\$560,000/200,000 = \2.80

| <u>Security</u> | <u>Net Income</u> | <u>Adjustment</u> | <u>Adjusted Net Income</u> | <u>Shares</u> | <u>Adjustment</u> | <u>Adjusted Shares</u> | <u>Diluted EPS</u> |
|-----------------|-------------------|-----------------------|----------------------------|---------------|--------------------|------------------------|--------------------|
| Com. Shares | \$560,000 | — | \$560,000 | 200,000 | — | 200,000 | \$2.80 |
| Warrants | 560,000 | — | 560,000 | 200,000 | 6,000 ¹ | 206,000 | 2.72 |
| Conv. Bonds | 560,000 | \$12,600 ² | 572,600 | 206,000 | 15,000 | 221,000 | 2.59 |

$$^1 \frac{320,000}{32} = \frac{16,000}{6,000} = \frac{(10,000)}{SA}$$

$$^2 \$300,000 \times .06 \times .7 = \$12,600; \frac{\$12,600}{15,000} = \$.84$$

Use the following information to answer Pr. 17-53 and 17-54.

El Dorado Corp has been in existence for the past fifteen years. However, during recent years, its common shares outstanding changed as shown below. The corporation uses the calendar year as its fiscal year.

| | <u>2012</u> | <u>2011</u> | <u>2010</u> |
|-----------------------------------|-------------|-------------|-------------|
| Shares outstanding, January 1 | 300,000 | 240,000 | 200,000 |
| Shares sold, April 2010 | | | 40,000 |
| 25% stock dividend, July 1, 2011 | | 60,000 | |
| 2-for-1 stock split, July 1, 2012 | 300,000 | | |
| Shares sold, October 1, 2012 | 100,000 | | |
| Shares outstanding, December 31 | 700,000 | 300,000 | 240,000 |
| Net Income | \$ 750,000 | 660,000 | 598,000 |

Pr. 17-53 —Weighted average calculations.

Calculate the weighted average number of shares outstanding for each year.

Solution 17-53

$$2010: (200,000 \times 3/12) + (240,000 \times 9/12) = \underline{230,000}$$

$$2011: (300,000 \times 12/12) = \underline{300,000}$$

Stock dividend is weighted back to the beginning of the period.

$$\text{Alternate calculation: } (240,000 \times 1.25 \times 6/12) + (300,000 \times 6/12)$$

$$2012: (300,000 \times 2 \times 6/12) + (600,000 \times 3/12) + (700,000 \times 3/12) = \underline{625,000}$$

Pr. 17-54—Basic earnings per share.

Assuming there were no preferred shares outstanding, compute EPS for each year based on your calculations in Pr 17-53.

Solution 17-54

| | <u>2012</u> | <u>2011</u> | <u>2010</u> |
|---|---------------|---------------|---------------|
| Net income | \$750,000 | \$660,000 | \$598,000 |
| Average shares outstanding (including stock dividend and stock split) | 625,000 | 300,000 | 230,000 |
| Earnings per share | <u>\$1.20</u> | <u>\$2.20</u> | <u>\$2.60</u> |

Pr. 17-55—Basic earnings per share.

Dawson Inc, a publicly accountable enterprise, has a July 31 year end. For the 2011 fiscal year, there were 100,000 common shares outstanding all year. Net income for the 2011 year was \$950,000. The income tax rate is 30%.

Part A. During the 2010 fiscal year, Dawson issued at par a 5% convertible bond , face value \$5,000,000. Each \$1,000 bond is convertible into 20 common shares. No bonds were converted in 2010, however, on March 31, 2011, 50% of the bonds were converted into common shares.

Part B. On August 1, 2010, Dawson issued 100,000, \$2, cumulative, convertible preferred shares. Two preferred shares are convertible into one common share. On September 30, 2010, 20% of these preferred shares were converted to common shares. The preferred share dividend was declared and paid on June 15, 2011.

Instructions

For each part, and treating each part as independent, determine basic and diluted earnings per share for fiscal 2011.

Solution 17-55

a) Weighted average common shares and basic EPS

| Date | # shares | Fraction of year | WACS |
|----------------|----------|------------------|---------|
| August 1, 2010 | 100,000 | 12/12 | 100,000 |
| March 31, 2011 | 50,000 | 4/12 | 16,667 |
| Total | | | 116,667 |

Basic EPS = $\$950,000/116,667 = \8.14

Diluted EPS Calculation:

Effect of conversion rights

| | |
|--|-----------|
| Interest expense for year on convertible bond - $\$5,000,000 \times 5\%$ | \$250,000 |
| Income tax reduction due to interest – 30% | (75,000) |
| Interest expense avoided, net of tax | 175,000 |
| Number of common shares issued assuming conversion on August 1 | 100,000 |
| Less: Portion actually converted on March 31 | (16,667) |
| Incremental effect of conversion option | 83,333 |
| Per share effect = $\$175,000/83,333$ | 2.10 |
| Therefore, dilutive | |

Recalculate EPS:

| | Income available to common shareholders | WACS |
|--|---|---------|
| Basic EPS | \$950,000 | 116,667 |
| 5% convertible bond | 175,000 | 83,333 |
| Total | 1,125,000 | 200,000 |
| Therefore, diluted EPS is $\$1,125,000/200,000 = \5.63 | | |

Solution 17-55 (Continued)

b) Weighted average common shares and basic EPS

| Date | # shares | Fraction of year | WACS |
|--------------------|----------|------------------|---------|
| August 1, 2010 | 100,000 | 12/12 | 100,000 |
| September 30, 2010 | 10,000 | 10/12 | 8,333 |
| Total | | | 108,333 |

Basic EPS = $(\$950,000 - (\$2 \times 80,000)) / 108,333 = \7.29

Diluted EPS Calculation:

Effect of conversion rights

| | |
|--|-----------|
| Preferred share dividend for year avoided | \$160,000 |
| Number of common shares issued assuming conversion on August 1 (100,000/2) | 50,000 |
| Less: Portion actually converted on September 30 | (10,000) |
| Incremental effect of conversion option | 40,000 |
| Per share effect = 160,000/40,000 | 4.00 |
| Therefore, dilutive | |

Recalculate EPS:

| | Income available to common shareholders | WACS |
|--|---|---------|
| Basic EPS | \$790,000 | 108,333 |
| Convertible preferred shares | 160,000 | 40,000 |
| Total | 950,000 | 148,333 |
| Therefore, diluted EPS is $\$950,000 / 148,333 = \6.40 | | |

Pr 17-56—Basic and diluted earnings per share.

The following data are presented by Maxim Ltd. for the calendar year 2012:

| | |
|--|-------------|
| Net income | \$4,500,000 |
| Common shares outstanding, 1,000,000 shares | |
| 10%, cumulative preferred shares, convertible into 120,000 common shares | \$1,600,000 |
| 8% convertible bonds; convertible into 105,000 common shares | \$7,500,000 |
| 360,000 call options exercisable at \$25 per share | |

Pr 17-56 (Continued)

Additional information:

- 1) The common and preferred shares and the convertible bonds were outstanding from the beginning of the year.
- 2) In 2012, a \$500,000 dividend was declared and distributed, however, no dividends were declared in 2011.
- 3) The average market price of the common shares in 2012 was \$30. The stock price was \$27 on January 1, 2012, and \$35 on December 31, 2012.
- 4) The convertible bonds were sold at par.
- 5) The income tax rate for 2012 is 30%.

Instructions

1. Calculate basic EPS.
2. Calculate diluted EPS.
3. Briefly discuss the usefulness of the EPS measure in general. What is the additional importance of reporting diluted EPS?

Solution Pr 17-56

1. Basic EPS = $(4,500,000 - 160,000) / 1,000,000 = \underline{\$4.34}$

| | <u>Denominator</u> | <u>Numerator</u> | <u>EPS</u> |
|------------------------------|--------------------|--------------------|--------------------|
| Start | 1,000,000 | \$4,340,000 | \$4.34 |
| Options | <u>60,000*</u> | <u>0</u> | |
| EPS after step 1 | 1,060,000 | 4,340,000 | 4.09 |
| Convertible preferred shares | <u>120,000</u> | <u>160,000</u> | 1.33 |
| EPS after step 2 | 1,180,000 | 4,500,000 | 3.81 |
| Convertible bonds | <u>105,000</u> | <u>420,000**</u> | 4.00 |
| | <u>1,285,000</u> | <u>\$4,920,000</u> | 3.83 antidilutive! |

* $360,000 - (25/30 \times 360,000) = 60,000$

** $(\$7,500,000 \times .08) \times (1 - .30) = 420,000$

Since the bonds are antidilutive, they are not included in the calculation, and diluted EPS = $\$4,500,000 \div 1,180,000 = \underline{\$3.81}$

3. EPS in general provides investors with the information on how much of the earnings each common share earned in the current year. This informs investors how much of the firm's earnings they "own" and will help them in predicting future dividend payouts. Diluted EPS provides shareholders with a more realistic picture of the future EPS as it also considers complex financial instruments that are not common shares yet, but are likely to be converted into common shares, which will lower the current shareholder's share of the earnings. Diluted EPS can also be viewed as a "worst case" scenario for the current shareholders.

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CHAPTER 18

INCOME TAXES

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|--|
| b | 1. | IFRS terminology. |
| c | 2. | Differences between taxable and accounting income. |
| d | 3. | ASPE income tax methods allowed. |
| c | 4. | IFRS income tax methods allowed. |
| d | 5. | Identify reversible difference. |
| a | 6. | Definition of the tax basis of a liability. |
| b | 7. | Definition of a temporary difference. |
| c | 8. | Identify a permanent difference. |
| a | 9. | Depreciation and temporary differences. |
| b | 10. | Difference due to unrealized loss on short-term securities. |
| d | 11. | Definition of future income tax liability. |
| c | 12. | Definition of future income tax asset. |
| c | 13. | AJE to credit future income tax asset account. |
| a | 14. | Objective of interperiod tax allocation. |
| a | 15. | Result of interperiod tax allocation. |
| b | 16. | Identify incorrect statement. |
| b | 17. | Calculation of effective tax rate. |
| b | 18. | Differences between taxable and accounting income. |
| c | 19. | Appropriate tax rate for future income tax amounts. |
| a | 20. | Composition of total income tax expense. |
| b | 21. | Recognition of tax benefits of a loss carryforward. |
| d | 22. | Financial statement presentation of a tax benefit from loss carryforward. |
| b | 23. | IFRS balance sheet presentation of future income tax assets and liabilities. |
| a | 24. | Definition of intraperiod tax allocation. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|--|
| a | 25. | Calculate future income tax liability. |
| d | 26. | Calculate future income tax liability with changing tax rates. |
| d | 27. | Calculate CCA claimed. |
| d | 28. | Calculate future income tax asset. |
| a | 29. | Calculate future income tax liability. |
| a | 30. | Calculate income tax expense for the year. |
| b | 31. | Calculate current income tax payable for the year. |
| d | 32. | Calculate deferred income tax asset. |
| a | 33. | Calculate deferred income tax liability. |
| b | 34. | Calculate future income tax asset or liability. |
| d | 35. | Calculate future income tax asset or liability. |
| a | 36. | Calculate instalment accounts receivable. |
| c | 37. | Calculate loss to be reported after loss carryback. |

MULTIPLE CHOICE—Computational (Continued)

| Answer | No. | Description |
|--------|-----|---|
| c | 38. | Calculate loss to be reported after loss carryback. |
| b | 39. | Calculate loss to be reported after loss carryforward. |
| d | 40. | Calculate income tax refund following a loss carryback. |

MULTIPLE CHOICE—CPA Adapted

| | | |
|---|-----|---|
| a | 41. | Calculate current income tax liability. |
| d | 42. | Calculate current income tax liability. |
| d | 43. | Calculate future income tax liability and income taxes currently payable. |
| b | 44. | Calculate current income tax expense. |
| b | 45. | Deferred income tax liability from reversible and permanent differences. |
| a | 46. | Future income tax liability from instalment sales. |
| d | 47. | Future income tax liability from depreciation/CCA differences. |
| d | 48. | Deferred income tax liability when using equity method of accounting. |
| a | 49. | Future income tax liability from depreciation and warranty differences. |
| c | 50. | Future income tax asset from warranty expenses. |

EXERCISES

| Item | Description |
|--------|--|
| E18-51 | Permanent and reversible differences. |
| E18-52 | Reversible differences. |
| E18-53 | Temporary differences. |
| E18-54 | Future (deferred) income tax asset. |
| E18-55 | Permanent and reversible differences. |
| E18-56 | Calculation of taxable income. |
| E18-57 | Deferred income taxes. |
| E18-58 | Future income taxes. |
| E18-59 | Operating loss carryforward without valuation allowance. |
| E18-60 | Operating loss carryforward with valuation allowance. |

PROBLEMS

| Item | Description |
|--------|--|
| P18-61 | Taxable income and accounting income. |
| P18-62 | Taxable temporary difference. |
| P18-63 | Differences between accounting and taxable income and effect on future income taxes. |
| P18-64 | Multiple reversible differences. |
| P18-65 | Interperiod tax allocation with change in enacted tax rates. |
| P18-66 | Deferred income tax asset. |
| P18-67 | Comprehensive income tax situation with multiple differences. |

MULTIPLE CHOICE—Conceptual

1. Under International Accounting Standards, accounting income and taxable income are referred to as

| <u>Accounting Income</u> | <u>Taxable Income</u> |
|--------------------------|-------------------------|
| a. Accounting profit | Income for tax purposes |
| b. Accounting profit | Taxable profit |
| c. Income before taxes | Taxable profit |
| d. Pretax profit | Taxable income |

2. When calculating income tax expense, taxable income of a corporation differs from pretax accounting income because of

| <u>Permanent Differences</u> | <u>Reversible Differences</u> |
|------------------------------|-------------------------------|
| a. No | No |
| b. No | Yes |
| c. Yes | Yes |
| d. Yes | No |

3. For calculating income tax expense, Accounting Standards for Private Enterprises (ASPE) allows the use of
 - a. any method as long as the CRA approves it.
 - b. the taxes payable method only.
 - c. the future income taxes method only.
 - d. either the taxes payable method or the future income taxes method.

4. For calculating income tax expense, International Financial Reporting Standards (IFRS) requires the use of
 - a. any method as long as the CRA approves it.
 - b. the taxes payable method only.
 - c. the balance sheet liability method only.
 - d. either the taxes payable method or the balance sheet liability method.

5. Which of the following will not result in a reversible difference?
 - a. Product warranty liabilities.
 - b. Unrealized holding losses.
 - c. Instalment sales.
 - d. Fines and penalties.

6. The tax basis of a liability is its carrying amount on the balance sheet
 - a. reduced by any amount that will be deductible for tax purposes in future periods.
 - b. increased by any amount that will be deductible for tax purposes in future periods.
 - c. less any amount that will not be taxable in the future.
 - d. plus any amount that will not be taxable in the future.

7. The difference between the tax basis of an asset or liability and its reported amount on the balance sheet is called a
- permanent difference.
 - temporary difference.
 - current difference.
 - future income tax expense.
8. Basani Corp's taxable income differed from its accounting income for 2012. An item that would create a permanent difference in accounting and taxable incomes for Basani would be
- a balance in the Unearned Rent account at year end.
 - using CCA for tax purposes and straight-line depreciation for book purposes.
 - a payment of the golf club dues for the president's membership.
 - making instalment sales during the year.
9. Machinery was acquired at the beginning of the year. Depreciation recorded during the life of the machinery could result in
- | | <u>Taxable Temporary Differences</u> | <u>Deductible Temporary Differences</u> |
|----|--------------------------------------|---|
| a. | Yes | Yes |
| b. | Yes | No |
| c. | No | Yes |
| d. | No | No |
10. Smithson Ltd records an unrealized loss on short-term securities. This would result in what type of difference and in what type of future income tax?
- | | <u>Type of Difference</u> | <u>Future income tax</u> |
|----|---------------------------|--------------------------|
| a. | Reversible | Liability |
| b. | Reversible | Asset |
| c. | Permanent | Liability |
| d. | Permanent | Asset |
11. A future income tax liability (or deferred tax liability) is the
- current tax consequence of a taxable temporary difference.
 - current tax consequence of a deductible temporary difference.
 - future income tax consequence of a deductible temporary difference.
 - future income tax consequence of a taxable temporary difference.
12. A future income tax asset (or deferred tax asset) is the
- current tax consequence of a taxable temporary difference.
 - current tax consequence of a deductible temporary difference.
 - future income tax consequence of a deductible temporary difference.
 - future income tax consequence of a taxable temporary difference.

13. If a corporation prepares an adjusting entry to credit the Future Income Tax Asset account, this should represent
- additional future income taxes payable.
 - a transfer to the Future Income Tax Liability account.
 - the reversal of a future income tax benefit that originated in a prior year.
 - the reversal of a future income tax expense that originated in a prior year.
14. The objective of interperiod tax allocation is to
- recognize the tax effects in the accounting period when the transactions and events are recognized for financial reporting purposes.
 - recognize a distribution of earnings to the shareholders.
 - reconcile the tax consequences of permanent and reversible differences appearing on the current year's financial statements.
 - adjust income tax expense on the income statement to be in agreement with income taxes payable on the balance sheet.
15. Interperiod tax allocation causes
- the income tax expense reported on the income statement to equal the amount of income taxes payable for the current year plus or minus the change in the future income tax asset or liability balances for the year.
 - the income tax expense reported on the income statement to bear a normal relation to the tax liability.
 - the income tax liability reported on the balance sheet to bear a normal relation to the income before tax reported on the income statement.
 - the income tax expense reported on the income statement to be presented with the specific revenues causing the tax.
16. In regard to reconciling income reported on the financial statements to taxable income, which of the following statements is *incorrect*?
- All differences between accounting income and taxable income are considered.
 - Only reversible differences are considered.
 - Only those that result in temporary differences are considered when determining future income tax amounts for the balance sheet.
 - Permanent differences may be added back to or deducted from accounting income.
17. The effective tax rate for a period is calculated by dividing
- total income tax expense by taxable income.
 - total income tax expense by the pre-tax income on the income statement.
 - taxable income by total income tax expense.
 - taxable income by the pre-tax income on the income statement.
18. Taxable income of a corporation
- differs from accounting income due to differences in intraperiod allocation between the two methods of income determination.
 - differs from accounting income due to differences in interperiod allocation and permanent differences between the two methods of income determination.
 - is based on generally accepted accounting principles.
 - is reported on the corporation's income statement.

19. Tax rates other than the current tax rate may be used to calculate the future income tax amount on the balance sheet if
 - a. it is probable that a future income tax rate change will occur.
 - b. it appears likely that a future income tax rate will be higher than the current tax rate.
 - c. the future income tax rates have been enacted into law.
 - d. it appears likely that a future income tax rate will be less than the current tax rate.

20. Total income tax expense for a corporation consists of
 - a. Current income tax expense and future income tax expense.
 - b. Current income tax expense only.
 - c. Future income tax expense only.
 - d. The future income tax asset minus any future income tax liability.

21. Recognition of tax benefits in a loss year due to a loss carry forward requires
 - a. the establishment of a future income tax liability.
 - b. the establishment of a future income tax asset.
 - c. the establishment of an income tax refund receivable.
 - d. only a note to the financial statements.

22. Glenn Inc. incurred an accounting and taxable loss for 2012. The corporation therefore decided to use the carryback provisions as it had been profitable up to this year. How should the amounts related to the carryback be reported in the 2012 financial statements?
 - a. The reduction of the loss should be reported as an adjustment to retained earnings.
 - b. The refund claimed should be reported as a future charge and amortized over five years.
 - c. The refund claimed should be reported as revenue in the current year.
 - d. The refund claimed should be shown as a reduction of the loss in 2012.

23. Under IFRS, how are future or deferred tax asset and liability accounts presented on the balance sheet?
 - a. They must be segregated into current and noncurrent items.
 - b. They must be shown as noncurrent assets or liabilities.
 - c. They must be shown as current assets or liabilities.
 - d. They must be reported as a reduction of the related asset or liability accounts.

24. Allocating income tax expense or benefit for the period (both current and future income taxes) to the income and other statements to reflect transactions that attract income tax is known as
 - a. Intra-period tax allocation.
 - b. Inter-period tax allocation.
 - c. Current tax allocation.
 - d. Reconciliation approach.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | b | 5. | d | 9. | a | 13. | c | 17. | b | 21. | b |
| 2. | c | 6. | a | 10. | b | 14. | a | 18. | b | 22. | d |
| 3. | d | 7. | b | 11. | d | 15. | a | 19. | c | 23. | b |
| 4. | c | 8. | c | 12. | c | 16. | b | 20. | a | 24. | a |

Answers

MULTIPLE CHOICE—Computational

25. On January 2, 2011, Simmons Corp purchased a depreciable asset for \$600,000. The asset has an estimated 4 year life with no residual value. Straight-line depreciation is being used for financial statement purposes but the following CCA amounts will be deducted for tax purposes:

| | | | |
|------|-----------|------|----------|
| 2011 | \$150,000 | 2014 | \$56,250 |
| 2012 | 225,000 | 2015 | 28,125 |
| 2013 | 112,500 | 2016 | 28,125 |

Assuming an income tax rate of 30% for all years, the future income tax liability that should be reflected on Simmons's balance sheet at December 31, 2012, should be

- \$22,500.
 - \$33,750.
 - \$45,000.
 - \$50,625.
26. A reconciliation of Tuba Corp's pretax accounting income with its taxable income for 2012, its first year of operations, is as follows:

| | |
|--------------------------|--------------------|
| Pretax accounting income | \$6,000,000 |
| Excess CCA | <u>(180,000)</u> |
| Taxable income | <u>\$5,820,000</u> |

The excess CCA will result in equal net taxable amounts in each of the next three years. Enacted tax rates are 40% in 2012, 35% in 2013, and 30% in 2014 and 2015. The total future income tax liability to be reported on Tuba's balance sheet at December 31, 2012, is

- \$72,000.
 - \$60,000.
 - \$63,000.
 - \$57,000.
27. Owl Corporation's partial income statement for its first year of operations is as follows:

| | | |
|----------------------------|---------------|--------------------|
| Income before income taxes | | \$1,750,000 |
| Income tax expense | | |
| Current | \$483,000 | |
| Future | <u>42,000</u> | <u>525,000</u> |
| Net income | | <u>\$1,225,000</u> |

Owl uses straight-line depreciation for financial reporting purposes and CCA for tax purposes. The depreciation expense for the year was \$700,000. No other differences existed between accounting income and taxable income except for the depreciation. Assuming a 30% tax rate, what amount was claimed for CCA on the corporation's tax return for the year?

- \$560,000.
- \$665,000.
- \$700,000.
- \$840,000.

Use the following information for questions 28 through 30.

At the end of 2012, its first year of operations, Easter Corp prepared the following reconciliation between pretax accounting income and taxable income:

| | |
|------------------------------|------------------|
| Pretax accounting income | \$300,000 |
| Estimated litigation expense | 750,000 |
| Instalment sales | <u>(600,000)</u> |
| Taxable income | <u>\$450,000</u> |

The estimated litigation expense of \$750,000 will be deductible in 2014 when it is expected to be paid. The instalment sales will be realized in the amount of \$300,000 in each of the next two years. The income tax rate is 30% for all years.

28. The future income tax asset to be recorded is
 - a. \$ 0.
 - b. \$45,000.
 - c. \$90,000.
 - d. \$225,000.

29. The future income tax liability to be recorded is
 - a. \$180,000.
 - b. \$ 90,000.
 - c. \$ 67,500.
 - d. \$ 45,000.

30. The total income tax expense to be reported on the income statement is
 - a. \$90,000.
 - b. \$135,000.
 - c. \$150,000.
 - d. \$300,000.

Use the following information for questions 31 through 33.

At the end of 2012, its first year of operations, Bagnold Corp prepared the following reconciliation between pretax accounting income and taxable income:

| | |
|------------------------------|--------------------|
| Pretax accounting income | \$ 600,000 |
| Estimated litigation expense | 800,000 |
| Excess CCA for tax purposes | <u>(1,200,000)</u> |
| Taxable income | <u>\$ 200,000</u> |

The estimated litigation expense of \$800,000 will be deductible in 2013 when it is expected to be paid. Use of the depreciable assets will result in taxable amounts of \$400,000 in each of the next three years. The income tax rate is 30% for all years. Bagnold adheres to IFRS requirements.

31. The current income tax payable is
- a. \$ 0.
 - b. \$60,000.
 - c. \$120,000.
 - d. \$180,000.
32. The deferred income tax asset to be recorded is
- a. \$60,000.
 - b. \$120,000.
 - c. \$180,000.
 - d. \$240,000.
33. The deferred income tax liability to be recorded is
- a. \$360,000.
 - b. \$300,000.
 - c. \$180,000.
 - d. \$ 0.
34. Major Corp reported the following results for the year ended December 31, 2012, its first year of operations:

| | |
|--------------------------|-----------|
| Pretax accounting income | \$250,000 |
| Taxable income | 400,000 |

- The difference between accounting income and taxable income is due to a temporary difference, which will reverse in 2013. What should Major record as the future income tax asset or liability for the year ended December 31, 2012, assuming that the enacted tax rates in effect are 40% in 2012 and 35% in 2013?
- a. \$60,000 future income tax liability.
 - b. \$52,500 future income tax asset.
 - c. \$60,000 future income tax asset.
 - d. \$52,500 future income tax liability.
35. In 2012, Egghead Ltd accrued, for financial statement reporting, estimated losses on disposal of unused plant facilities of \$750,000. The facilities were sold in March 2013 and a \$750,000 loss was recognized for tax purposes. Also in 2012, Egghead paid \$50,000 in premiums for a two-year life insurance policy in which the company was the beneficiary. Assuming that the enacted tax rate is 30% in both 2012 and 2013, and that Egghead paid \$390,000 in income taxes in 2012, the amount reported as future income taxes on Egghead's balance sheet at December 31, 2012, should be a
- a. \$210,000 asset.
 - b. \$180,000 asset.
 - c. \$180,000 liability.
 - d. \$225,000 asset.

36. Stromboli Inc sells household furniture on an instalment basis. Customers make payments in equal monthly instalments over a two-year period, with no down payment required. Stromboli's gross profit on instalment sales is 40% of the selling price. For book purposes, sales revenue is recognized at the time the sale is made. For income tax purposes, however, the instalment method is used. There are no other accounting and income tax accounting differences, and Stromboli's income tax rate is 30%. If Stromboli's December 31, 2012, balance sheet includes a future income tax liability of \$90,000 arising from the difference between accounting and tax treatment of the instalment sales, it should also include instalment accounts receivable of
- \$750,000.
 - \$300,000.
 - \$225,000.
 - \$90,000.

37. Troy Ltd. reports a taxable and accounting loss of \$130,000 for 2012. Its pretax accounting income for the last two years was as follows:

| | |
|------|----------|
| 2010 | \$60,000 |
| 2011 | 80,000 |

The amount that Troy reports as a net loss for financial reporting purposes in 2012, assuming that it uses the carryback provisions, and that the tax rate is 30% for all years involved, is

- \$ 0.
- \$ 88,000.
- \$ 91,000.
- \$ 130,000.

Use the following information for questions 38 and 39.

Black Raven Corporation reported the following results for its first three years of operations:

| | |
|-----------------------------------|-----------|
| 2011 income (before income taxes) | \$ 40,000 |
| 2012 loss (before income taxes) | (360,000) |
| 2013 income (before income taxes) | 400,000 |

There were no permanent or reversible differences during these three years. Assume an income tax rate of 30% for 2011 and 2012, and 40% for 2013, and that any future income tax asset recognized is more likely than not to be realized.

38. If Black Raven elects to use the carryback provisions, what income (loss) is reported in 2012?
- \$(360,000).
 - \$(348,000).
 - \$(220,000).
 - \$ 0.

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39. Assuming that Black Raven elects to use the carryforward provisions and not the carryback provisions, what income (loss) is reported in 2012?
- a. \$ 0.
 - b. \$(216,000).
 - c. \$(232,000).
 - d. \$(360,000).

40. Jet Inc. reports a taxable and pretax accounting loss of \$150,000 for 2012. Jet's taxable and pretax accounting income and tax rates for the last two years were:

| | | |
|------|-----------|-----|
| 2010 | \$200,000 | 30% |
| 2011 | 200,000 | 35% |

The amount that Jet should report as an income tax refund receivable in 2012, assuming that it uses the carryback provisions and that the tax rate is 40% in 2012, is

- a. \$70,000.
- b. \$60,000.
- c. \$52,500.
- d. \$45,000.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 25. | a | 28. | d | 31. | b | 34. | b | 37. | c | 40. | d |
| 26. | d | 29. | a | 32. | d | 35. | d | 38. | c | | |
| 27. | d | 30. | a | 33. | a | 36. | a | 39. | b | | |

MULTIPLE CHOICE — CPA Adapted

41. Corvette Corp reported pretax accounting income of \$300,000 for the year ended December 31, 2012. To calculate their income tax liability, the following data were considered:

| | |
|---|-----------|
| Life insurance proceeds on the death of the chief financial officer | \$130,000 |
| Depreciation in excess of CCA | 20,000 |
| Instalment tax payments made during 2012 | 25,000 |
| Enacted income tax rate for 2012 | 30% |

What amount should Corvette report as its current income tax liability on its December 31, 2012 balance sheet?

- a. \$20,000.
 - b. \$26,000.
 - c. \$45,000.
 - d. \$51,000.
42. Wong Corp reported pretax accounting income of \$375,000 for the year ended December 31, 2012. To calculate their income tax liability, the following data were considered:

| | |
|--|----------|
| Non-taxable portion of capital gains | \$15,000 |
| CCA in excess of depreciation | 30,000 |
| Instalment tax payments made during 2012 | 75,000 |
| Enacted income tax rate for 2012 | 30% |

What amount should Wong report as its current income tax liability on its December 31, 2012 balance sheet?

- a. \$99,000.
- b. \$37,500.
- c. \$33,000.
- d. \$24,000.

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43. Dmitri Corp.'s 2012 income statement showed pretax accounting income of \$100,000 for its first year of operations. Dmitri uses CCA for tax purposes and straight-line depreciation for financial reporting. The differences between depreciation and CCA over the five-year life of the assets, and the enacted tax rates for 2012 to 2016 are as follows:

| | Depreciation Over (Under) CCA | Tax Rates |
|------|----------------------------------|-----------|
| 2012 | \$(20,000) | 35% |
| 2013 | (26,000) | 30% |
| 2014 | (6,000) | 30% |
| 2015 | 24,000 | 30% |
| 2016 | 28,000 | 30% |

There are no other reversible differences. On Dmitri's December 31, 2012 balance sheet, the future income tax liability and the current income taxes payable should be

| | Future Income Tax Liability | Current Income Taxes Payable |
|----|--------------------------------|---------------------------------|
| a. | \$15,600 | \$20,000 |
| b. | \$15,600 | \$28,000 |
| c. | \$ 6,000 | \$24,000 |
| d. | \$ 6,000 | \$28,000 |

44. For the year ended December 31, 2012, Woodpecker Corp. prepared the following reconciliation of accounting income with taxable income

| | |
|--|------------------|
| Pretax accounting income | \$750,000 |
| Add reversible difference | |
| Construction contract revenue which will reverse in 2013 | 100,000 |
| Deduct reversible difference | |
| Depreciation expense, which will reverse in equal amounts in each of the next four years | <u>(400,000)</u> |
| Taxable income | <u>\$450,000</u> |

Woodpecker's income tax rate is 34% for 2012. What amount should the corporation report in its 2012 income statement as current income tax expense?

- a. \$ 34,000.
 b. \$153,000.
 c. \$255,000.
 d. \$289,000.
45. In its 2012 income statement, Penguin Corp, a publicly accountable enterprise, reported depreciation of \$525,000 and interest revenue from a Canadian corporation of \$105,000. For 2012 income tax purposes, Penguin claimed CCA of \$825,000. The difference in depreciation/CCA will reverse equally over the next three years. Penguin's income tax rates are 35% for 2012, 30% for 2013, and 25% for 2014 and 2015. What amount should be included as the deferred income tax liability in Penguin's December 31, 2012 balance sheet?
- a. \$75,000.
 b. \$80,000.
 c. \$90,000.
 d. \$99,000.

46. Lahti Inc. uses the accrual method of accounting for financial reporting purposes and the instalment method of accounting for income tax purposes. Instalment income of \$930,000 will be collected in the following years when the enacted tax rates are:

| | <u>Collection of Income</u> | <u>Enacted Tax Rates</u> |
|------|-----------------------------|--------------------------|
| 2012 | \$ 120,000 | 35% |
| 2013 | 180,000 | 30% |
| 2014 | 270,000 | 30% |
| 2015 | 360,000 | 25% |

The instalment income is Lahti's only reversible difference. What amount should be included as the future income tax liability on Lahti's December 31, 2012 balance sheet?

- a. \$225,000.
 b. \$243,000.
 c. \$256,500.
 d. \$315,000.
47. On January 1, 2012, Manjit Inc. purchased a machine for \$270,000 which will be depreciated \$27,000 annually for book purposes. For income tax reporting, the asset is a Class 8 asset with a CCA rate of 20%, subject to the half year rule for 2012. Assume a present and future enacted income tax rate of 30%. What amount should be added to Manjit's future income tax liability for the difference between depreciation and CCA at December 31, 2012?
- a. \$16,200.
 b. \$ 9,000.
 c. \$ 8,100.
 d. \$-0-.
48. On January 1, 2012, Coal Corp, a publicly accountable enterprise, purchased 40% of the common shares of Harbor Inc. (a U.S. company) and accounts for this investment by the equity method. During 2012, Harbor reported earnings of \$900,000 (Canadian) and paid dividends of \$300,000 (Canadian). Coal assumes that all of Harbor's undistributed earnings will be distributed as dividends in future periods when the enacted tax rate will be 30%. Coal's current income tax rate is 25%. The increase in Coal's deferred income tax liability for this temporary difference is
- a. \$180,000.
 b. \$150,000.
 c. \$108,000.
 d. \$ 72,000.

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49. For the calendar year 2012, Blank Corp. reported depreciation expense of \$800,000 on its income statement, but on its 2012 income tax return, Blank claimed CCA of \$1,200,000. The 2012 income statement also included \$150,000 in accrued warranty expense that will be deducted for tax purposes when paid. Blank's income tax rates are 30% for 2012 and 2013, and 24% for 2014 and 2015. The depreciation difference and warranty expense will reverse over the next three years as follows:

| | <u>Depreciation Difference</u> | <u>Warranty Expense</u> |
|------|--------------------------------|-------------------------|
| 2013 | \$160,000 | \$ 30,000 |
| 2014 | 140,000 | 50,000 |
| 2015 | <u>100,000</u> | <u>70,000</u> |
| | <u>\$400,000</u> | <u>\$150,000</u> |

These were Blank's only reversible differences. At December 31, 2012, Blank's future income tax liability should be

- a. \$ 67,800.
 - b. \$ 73,200.
 - c. \$ 75,000.
 - d. \$133,800.
50. For the year ended December 31, 2012, its first year of operations, Quesnel Corp reported pretax accounting income of \$330,000 and taxable income of \$600,000. The only reversible difference is accrued warranty costs, which are expected to be paid as follows:

| | |
|------|----------|
| 2013 | \$90,000 |
| 2014 | 45,000 |
| 2015 | 45,000 |
| 2016 | 90,000 |

The enacted income tax rates are 35% for 2012, 30% for 2013 through 2015 and 25% for 2016. The future income tax asset reported on Quesnel's December 31, 2012 balance sheet should be

- a. \$54,000.
- b. \$63,000.
- c. \$76,500.
- d. \$94,500.

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 41. | a | 43. | d | 45. | b | 47. | d | 49. | a |
| 42. | d | 44. | b | 46. | a | 48. | d | 50. | c |

DERIVATIONS—Computational

| No. | Answer | Derivation |
|-----|--------|---|
| 25. | a | $(\$225,000 - \$150,000) \times 30\% = \$22,500.$ |
| 26. | d | $(\$60,000 \times 35\%) + (\$60,000 \times 30\%) + (\$60,000 \times 30\%) = \$57,000.$ |
| 27. | d | $(30\% \times \text{Temporary Difference}) = \$42,000;$ Temporary Difference = $(\$42,000/30\%) = \$140,000;$ $\$700,000 + \$140,000 = \$840,000.$ |
| 28. | d | $(\$750,000 \times 30\%) = \$225,000.$ |
| 29. | a | $(\$600,000 \times 30\%) = \$180,000.$ |
| 30. | a | Income tax payable = $(\$450,000 \times 30\%) = \$135,000$ Change in future income tax liability = $(\$600,000 \times 30\%) = \$180,000$ Change in future income tax asset = $(\$750,000 \times 30\%) = \$225,000$ $\$135,000 + \$180,000 - \$225,000 = \$90,000.$ |
| 31. | b | $(\$200,000 \times 30\%) = \$60,000.$ |
| 32. | d | $(\$800,000 \times 30\%) = \$240,000.$ |
| 33. | a | $(\$1,200,000 \times 30\%) = \$360,000.$ |
| 34. | b | $(\$400,000 - \$250,000) \times 35\% = \$52,500.$ |
| 35. | d | $(\$750,000 \times 30\%) = \$225,000.$ |
| 36. | a | $\$90,000 / 30\% = \$300,000$ temporary difference $\$300,000 / 40\% = \$750,000.$ |
| 37. | c | $\$130,000 - (30\% \times \$130,000) = \$91,000.$ |
| 38. | c | $(\$40,000 \times 30\%) = \$12,000;$ $\$320,000 \times 40\% = \$128,000;$ $(\$360,000 - \$12,000 - \$128,000) = \$220,000.$ |
| 39. | b | $(\$360,000 \times 40\%) = \$144,000;$ $\$360,000 - \$144,000 = \$216,000.$ |
| 40. | d | $(\$150,000 \times 30\%) = \$45,000.$ |

DERIVATIONS—CPA Adapted

| No. | Answer | Derivation |
|-----|--------|--|
| 41. | a | $(\$300,000 - \$130,000 - \$20,000) \times 30\% = \$45,000;$ $\$45,000 - \$25,000 = \$20,000.$ |
| 42. | d | $(\$375,000 - \$15,000 - \$30,000) \times 30\% = \$99,000;$ $\$99,000 - \$75,000 = \$24,000.$ |
| 43. | d | $(\$20,000 \times 30\%) = \$6,000;$ $(\$100,000 - \$20,000) \times 35\% = \$28,000.$ |
| 44. | b | $(\$450,000 \times 34\%) = \$153,000.$ |
| 45. | b | $\$825,000 - \$525,000 = \$300,000$ $(\$100,000 \times 30\%) + (\$100,000 \times 25\%) + (\$100,000 \times 25\%) = \$80,000.$ |
| 46. | a | $(\$180,000 \times 30\%) + (\$270,000 \times 30\%) + (\$360,000 \times 25\%) = \$225,000.$ |
| 47. | d | $\$270,000 \times 20\% \times 1/2 = \$27,000.$ There is no reversible difference in 2012. |
| 48. | d | $(\$900,000 - \$300,000) \times 40\% = \$240,000;$ $\$240,000 \times 30\% = \$72,000.$ |
| 49. | a | $(\$160,000 - \$30,000) \times 30\% = \$39,000;$ $(\$140,000 - \$50,000) \times 24\% = \$21,600;$ $(\$100,000 - \$70,000) \times 24\% = \$7,200;$ $\$39,000 + \$21,600 + \$7,200 = \$67,800.$ |
| 50. | c | $(\$90,000 + \$45,000 + \$45,000) \times 30\% = \$54,000;$ $\$90,000 \times 25\% = \$22,500;$ $\$54,000 + \$22,500 = \$76,500.$ |

EXERCISES

Ex. 18-51—Permanent and reversible differences.

Listed below are items that are treated differently for accounting purposes than they are for tax purposes. Indicate whether the items are permanent differences or reversible differences. For reversible differences, indicate whether they will create future income tax assets or future income tax liabilities.

1. Investments accounted for by the equity method.
2. Advance rental receipts.
3. Membership costs for executives at a local golf club.
4. Estimated future warranty costs.
5. Excess of pension contributions over pension expense.
6. Expenses incurred in obtaining tax-exempt revenue.
7. Instalment sales.
8. Excess CCA over accounting depreciation.
9. Long-term construction contracts.
10. Premiums paid on life insurance of officers (company is the beneficiary).
11. Penalty assessed by CRA for late submission of income tax return.

Solution 18-51

1. Reversible difference, future income tax liability.
2. Reversible difference, future income tax asset.
3. Permanent difference.
4. Reversible difference, future income tax asset.
5. Reversible difference, future income tax liability.
6. Permanent difference.
7. Reversible difference, future income tax liability.
8. Reversible difference, future income tax liability.
9. Reversible difference, future income tax liability.
10. Permanent difference.
11. Permanent difference.

Ex. 18-52—Reversible differences.

There are four types of reversible differences. For each type: (1) indicate the cause of the difference, (2) give an example, and (3) indicate whether it will create a taxable or deductible amount in the future.

Solution 18-52

- (a) Revenues or gains taxable after they are recognized in pretax accounting income. Examples are instalment sales, long-term construction contracts, and the equity method of accounting for investments. They result in future taxable amounts.
- (b) Revenues or gains taxable before they are recognized in pretax accounting income. Examples are subscriptions received in advance and rents received in advance. They result in future deductible amounts.
- (c) Expenses or losses deductible before they are recognized in pretax accounting income. Examples are the use of CCA for tax purposes, prepaid expenses, and pension funding in excess of pension expense. They result in future taxable amounts.
- (d) Expenses or losses deductible after they are recognized in pretax accounting income. Examples are warranty expenses, estimated litigation losses, and unrealized losses on investments. They result in future deductible amounts.

Ex. 18-53—Temporary differences.

Explain the difference between a taxable temporary difference and a deductible temporary difference.

Solution 18-53

Temporary differences are differences between the tax basis of an asset or liability and its reported amount in the financial statements that will result in taxable amounts or deductible amounts in future years.

Taxable temporary differences increase taxable income in future years and cause a future income tax liability to be recorded. Deductible temporary differences decrease taxable income in future years and cause a future income tax asset to be recorded.

Ex. 18-54—Future (deferred) income tax asset.

- (a) Describe a future (deferred) income tax asset.
- (b) When should a future (deferred) income tax asset be reduced?

Solution 18-54

- (a) A future income tax asset is the future income tax consequences attributable to deductible temporary differences and loss carryforwards. Note that IFRS uses the term “deferred” instead of “future.”
- (b) A future income tax asset should be reduced if, based on all available evidence, it is more likely than not that some or all of the future income tax asset will not be realized. IFRS requires that it be “probable” that some or all of the deferred income tax asset will not be realized.

Ex. 18-55—Permanent and reversible differences.

Explain whether each of the following independent situations should be treated as a reversible difference or a permanent difference.

- (a) For accounting purposes, Aye Corp. reports revenue from instalment sales on the accrual basis. For income tax purposes it reports the revenues by the instalment method, deferring recognition of gross profit until cash is collected.
- (b) Pretax accounting income and taxable income differ because dividends received from Canadian corporations were not included in Bee Corp’s taxable income, while 100% of the dividends received were included as revenue for financial statement purposes.
- (c) Cee Corp’s estimated warranty costs (covering a three-year warranty) are expensed for accounting purposes at the time of sale but deducted for income tax purposes only when paid.

Solution 18-55

- (a) **Reversible difference.** This difference in the timing of revenue recognition between pretax accounting income and taxable income will initially increase pretax accounting income, but will not increase taxable income by the amount of future gross profits until cash is collected in subsequent years. Assuming the estimate as to collectibility of instalment receivables is valid, the total amounts reported as gross profits for accounting purposes and for tax purposes will be equal over the life of a group of instalment receivables. The time lag between the accrual for accounting purposes and the recognition for tax purposes will increase the future income tax liability as long as instalment sales are level or increasing. The future income tax liability will be reduced as the receivables are collected.
- (b) **Permanent difference.** This difference in pretax accounting income and taxable income will never reverse because present tax laws allow a corporation that owns shares in another Canadian corporation to exclude the dividends it receives from that corporation. Thus there are no tax consequences for such dividends, even though they are recognized as income for accounting purposes.

Solution 18-55 (Continued)

- (c) **Reversible difference.** The full estimated three years of warranty expense reduces the current year's pretax accounting income, but will reduce taxable income in varying amounts each year as the costs are paid. Assuming the warranty estimate is valid, the total amounts deducted for accounting and for tax purposes will be equal over the three-year period. This is an example of an expense that, in the first year, reduces pretax accounting income more than it does the taxable income and, in later years, reverses and reduces taxable income without affecting pretax accounting income.

Ex. 18-56—Calculation of taxable income.

The records for Artoo Inc. show the following data for 2012:

- Gross profit on instalment sales recorded on the books was \$200,000. Gross profit from collections of instalment receivables was \$150,000.
- Golf club dues were \$3,800.
- Machinery was acquired in January for \$300,000. Straight-line depreciation over a ten-year life (no residual value) is used. For taxes, CCA is used and Artoo may deduct 14% for 2012.
- Dividends received from a Canadian corporation were \$9,000.
- The estimated warranty liability related to 2012 sales was \$19,600. Warranty repair costs paid during 2012 were \$13,600. The remainder will be paid in 2013.
- Pretax accounting income is \$250,000. The enacted income tax rate is 30%.

Instructions

- Prepare a schedule (starting with pretax accounting income) to calculate taxable income.
- Prepare the adjusting journal entries to record income taxes for 2012.

Solution 18-56

| | |
|--|------------------|
| (a) Pretax financial income | \$250,000 |
| Permanent differences | |
| Golf dues (add back) | 3,800 |
| Dividends (deduct) | (9,000) |
| Reversible differences | |
| Instalment sales (\$200,000 – \$150,000) | (50,000) |
| CCA (\$42,000 – \$30,000) | (12,000) |
| Warranty expense (\$19,600 – \$13,600) | 6,000 |
| Taxable income | <u>\$188,800</u> |

Solution 18-56 (Continued)

| | | |
|--|--------|--------|
| (b) Current Income Tax Expense | 56,640 | |
| Income Tax Payable (30% × \$188,800)..... | | 56,640 |
| Future Income Tax Expense (\$18,600 – \$1,800) | 16,800 | |
| Future income Tax Asset (30% × \$6,000)..... | 1,800 | |
| Future Income Tax Liability (30% × \$62,000)..... | | 18,600 |

Ex. 18-57—Deferred income taxes.

Fortescue Ltd, at the end of 2012, its first year of operations, prepared a reconciliation between pretax accounting income and taxable income as follows:

| | |
|---|------------------|
| Pretax accounting income | \$300,000 |
| Excess CCA claimed for tax purposes | (600,000) |
| Estimated expenses deductible when paid | <u>500,000</u> |
| Taxable income | <u>\$200,000</u> |

Use of the depreciable assets will result in taxable amounts of \$200,000 in each of the next three years. The estimated expenses of \$500,000 will be deductible in 2015 when settlement is expected to be made. Fortescue is a publicly accountable enterprise that adheres to IFRS.

Instructions

- Prepare a schedule of the deferred taxable and deductible amounts.
- Prepare the adjusting journal entries to record current income tax expense, deferred income taxes, and income taxes payable for 2012, assuming a tax rate of 40% for all years.

Solution 18-57

| | | | | | |
|-----|---|-------------|-------------|-------------|--------------|
| (a) | | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>Total</u> |
| | Future taxable (deductible) amounts | | | | |
| | CCA | \$200,000 | \$200,000 | \$200,000 | \$600,000 |
| | Expenses | | | (500,000) | (500,000) |
| (b) | Current Income Tax Expense (\$200,000 × 40%)..... | | | 80,000 | |
| | Income Tax Payable | | | | 80,000 |
| | Deferred Income Tax Expense (\$240,000 – \$200,000) | | | 40,000 | |
| | Deferred Income Tax Asset (\$500,000 × 40%)..... | | | 200,000 | |
| | Deferred Income Tax Liability (\$600,000 × 40%) | | | | 240,000 |

Ex. 18-58—Future income taxes.

Baron Corp, at the end of 2012, its first year of operations, prepared a reconciliation between pretax accounting income and taxable income as follows:

| | |
|--|------------------|
| Pretax accounting income | \$300,000 |
| Estimated warranty expenses deductible when paid | 800,000 |
| Excess CCA | <u>(600,000)</u> |
| Taxable income | <u>\$500,000</u> |

Estimated warranty expenses of \$530,000 will be deductible in 2013, \$200,000 in 2014, and \$70,000 in 2015. The use of the depreciable assets will result in taxable amounts of \$200,000 in each of the next three years.

Instructions

- (a) Prepare a schedule of the future taxable and deductible amounts.
- (b) Prepare the adjusting journal entries to record income tax expense, future income taxes, and income taxes payable for 2012, assuming an income tax rate of 40% for all years.

Solution 18-58

| (a) | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>Total</u> |
|---|--------------|--------------|-------------|--------------|
| Future taxable (deductible) amounts | | | | |
| Warranties | \$ (530,000) | \$ (200,000) | \$ (70,000) | \$ (800,000) |
| Excess CCA | 200,000 | 200,000 | 200,000 | 600,000 |
| (b) Current Income Tax Expense (\$500,000 x 40%) | | | 200,000 | |
| Income Tax Payable | | | | 200,000 |
| Future Income Tax Asset (\$800,000 x 40%) | | | 320,000 | |
| Future Income Tax Liability (\$600,000 x 40%) | | | | 240,000 |
| Future Income Tax Expense (\$320,000 - \$240,000) | | | | 80,000 |

Ex. 18-59—Operating loss carryforward without valuation allowance.

In 2011, its first year of operations, Lachinski Inc. had a \$500,000 net operating loss when the tax rate was 30%. In 2012, Lachinski had \$200,000 taxable income and the tax rate remained at 30%.

Assume Lachinski’s management thinks that it is more likely than not that the loss carryforward will *not* be realized in the near future, because it is a new company (this is before results of 2012 operations are known). Lachinski does not use the valuation allowance approach.

Instructions

- (a) What entries (if any) would be prepared in 2011 to record the tax loss carryforward?
- (b) What entries (if any) would be prepared in 2012 to record the current and future income taxes and to recognize the loss carryforward? (Assume that at the end of 2012 it is more likely than not that the future income tax asset will now be realized.)

Solution 18-59

| | | | |
|-----|---|--------|--------|
| (a) | No journal entry is required. | | |
| (b) | Current Income Tax Expense ($\$200,000 \times 30\%$)..... | 60,000 | |
| | Income Tax Payable | | 60,000 |
| | Income Tax Payable..... | 60,000 | |
| | Benefit Due to Loss Carryforward | | 60,000 |
| | Future Income Tax Asset | 90,000 | |
| | Future Income Tax Benefit ($\$300,000 \times 30\%$) | | 90,000 |

Ex. 18-60—Operating loss carryforward with valuation allowance

In 2011, its first year of operations, Tetrowski Inc. had a net operating loss of \$200,000 when the tax rate was 20%. In 2012, Tetrowski had \$250,000 in taxable income and the tax rate remained at 20%.

Assume Tetrowski's management thinks, at the end of 2011, that it is likely that the loss carryforward will not be realized in the near future. Tetrowski chooses to use the valuation allowance method for loss carryforwards.

Instructions

- (a) What entries (if any) would be prepared in 2011 to record the tax loss carryforward?
 (b) What entries (if any) would be prepared in 2012 to record the current and future income taxes and to recognize the loss carryforward?

Solution 18-60

| | | | |
|-----|---|--------|--------|
| (a) | Future Income Tax Asset ($\$200,000 \times 20\%$) | 40,000 | |
| | Future Income Tax Benefit..... | | 40,000 |
| | Future Income Tax Expense | 40,000 | |
| | Allowance to Reduce Future Income Tax Asset to Expected Realizable Value | | 40,000 |
| (b) | Current Income Tax Expense ($\$50,000 \times 20\%$)..... | 10,000 | |
| | Income Tax Payable | | 10,000 |
| | Future Income Tax Expense | 40,000 | |
| | Future Income Tax Asset..... | | 40,000 |
| | Allowance to Reduce Future Income Tax Asset to Expected Realizable Value | 40,000 | |
| | Future Income Tax Benefit..... | | 40,000 |

PROBLEMS

Pr. 18-61—Taxable income and accounting income.

Explain the difference between accounting income and taxable income.

Solution 18-61

Accounting income is calculated in accordance with generally accepted accounting principles. Taxable income is calculated in accordance with prescribed tax legislation and regulations. Because tax legislation and GAAP have different objectives, accounting income and taxable income often differ.

Pr. 18-62—Taxable Temporary Difference.

Explain what a taxable temporary difference is and why a future or deferred income tax liability is recognized.

Solution 18-62

A taxable temporary difference is the difference between the carrying value of an asset or liability and its tax basis such that when the asset is recovered or liability is settled in the future for an amount equal to its carrying value, taxable income of that future period will be increased. Because taxes arise in the future as a result of reversible differences existing at the balance sheet date, the future income tax consequences of these taxable amounts are recognized in the current period as a future income tax liability (ASPE) or deferred income tax liability (IFRS).

Pr. 18-63—Differences between accounting and taxable income and the effect on future income taxes.

The following differences apply to the reconciliation of accounting income and taxable income of Rhodes Inc for the year ended December 31, 2012, its first year of operations. The enacted income tax rate is 30% for all years.

| | |
|--|------------------|
| Pretax accounting income | \$450,000 |
| Excess CCA | (240,000) |
| Litigation accrual | 35,000 |
| Unearned rent revenue deferred on the books but correctly included in taxable income | 25,000 |
| Dividend income from Canadian corporations | <u>(10,000)</u> |
| Taxable income | <u>\$260,000</u> |

1. Excess CCA will reverse equally over a four-year period, 2013–2016.
2. It is estimated that the litigation liability will be paid in 2016.
3. Unearned rent revenue will be recognized as earned equally over a four year period, 2013–2016.

Pr. 18-63 (Continued)**Instructions**

- Prepare a schedule of future taxable and deductible amounts.
- Prepare a schedule of any future income tax asset and/or future income tax liability.
- Since this is the first year of operations, there is no beginning future income tax asset or liability. Calculate the net future income tax expense (benefit).
- Prepare the adjusting journal entries to record income tax expense, future income taxes, and the income taxes payable for 2012.

Solution 18-63

| (a) | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>2016</u> | <u>Total</u> |
|--------------------------------------|-------------|-------------|-------------|-------------|--------------|
| Future taxable (deductible) amounts: | | | | | |
| CCA | \$60,000 | \$60,000 | \$60,000 | \$60,000 | \$240,000 |
| Litigation | | | | (35,000) | (35,000) |
| Unearned rent | (6,250) | (6,250) | (6,250) | (6,250) | (25,000) |

| (b) | Future Taxable (Deductible) | | Future income tax | |
|-----|--------------------------------|------------------|-------------------|-----------------------------------|
| | <u>Reversible Differences</u> | <u>Amounts</u> | <u>Tax Rate</u> | <u>Asset</u> <u>Liability</u> |
| | CCA | \$240,000 | 30% | \$72,000 |
| | Litigation | (35,000) | 30% | \$(10,500) |
| | Unearned rent | (25,000) | 30% | (7,500) |
| | Totals | <u>\$180,000</u> | | <u>\$(18,000)</u> <u>\$72,000</u> |

| | | |
|-----|-------------------------------|-----------------|
| (c) | Future income tax expense | \$72,000 |
| | Future income tax benefit | (18,000) |
| | Net future income tax expense | <u>\$54,000</u> |

| | | | |
|-----|--|--------|--------|
| (d) | Current Income Tax Expense (\$260,000 x 30%) | 78,000 | |
| | Income Tax Payable | | 78,000 |
| | Future Income Tax Expense | 54,000 | |
| | Future income Tax Asset..... | 18,000 | |
| | Future Income Tax Liability..... | | 72,000 |

Pr. 18-64—Multiple reversible differences.

The following information is available for the first three years of operations for Jedi Corporation:

- | <u>Year</u> | <u>Taxable Income</u> |
|-------------|-----------------------|
| 2011 | \$250,000 |
| 2012 | 180,000 |
| 2013 | 200,000 |
- On January 2, 2011, heavy equipment was purchased for \$500,000. The equipment had an estimated service life of 5 years and no residual value. The straight-line method of depreciation is used for book purposes and the CCA rate of 30% is used for tax purposes.

Pr. 18-64 (Continued)

3. On January 2, 2012, \$210,000 was collected in advance for the rental of a building for three years. The entire \$210,000 was included in taxable income in 2012, but two-thirds of the \$210,000 was reported as unearned revenue at December 31, 2012 for book purposes.
4. The enacted tax rate is 40% for all years.

Instructions

- (a) Prepare a schedule comparing depreciation for book purposes with CCA for tax purposes.
- (b) Determine the future income tax asset or liability at the end of 2011.
- (c) Prepare a schedule of future taxable and deductible amounts at the end of 2012.
- (d) Prepare a schedule of the future income tax asset and liability at the end of 2012.
- (e) Calculate the net future income tax expense or benefit for 2012.
- (f) Prepare the adjusting journal entries to record income tax expense, future income taxes, and income tax payable for 2012.

Solution 18-64

| | | | |
|-----------|--------------------------|---------------------|-------------------|
| (a) | Depreciation for Book | CCA for | Reversible |
| | <u>Purposes</u> | <u>Tax Purposes</u> | <u>Difference</u> |
| Year | | | |
| 2011 | \$100,000 | \$ 75,000 | \$ 25,000 |
| 2012 | 100,000 | 127,500 | (27,500) |
| 2013 | 100,000 | 89,250 | 10,750 |
| 2014 | 100,000 | 62,475 | 37,525 |
| 2015 | 100,000 | 43,733 | 56,267 |
| Remainder | -0- | <u>102,042</u> | <u>(102,042)</u> |
| | <u>\$500,000</u> | <u>\$500,000</u> | <u>\$ -0-</u> |

| | | | | | | |
|---|-------------|-------------|-------------|-------------|------------------|--------------|
| (b) | <u>2012</u> | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>Remainder</u> | <u>Total</u> |
| Future taxable (deductible) amounts: | | | | | | |
| CCA | (\$27,500) | \$10,750 | \$37,525 | \$56,267 | (\$102,042) | \$25,000 |

Future income tax asset: $\$25,000 \times 40\% = \$10,000$ at the end of 2011.

| | | | | | |
|---|-------------|-------------|-------------|------------------|--------------|
| (c) | <u>2013</u> | <u>2014</u> | <u>2015</u> | <u>Remainder</u> | <u>Total</u> |
| Future taxable (deductible) amounts: | | | | | |
| CCA | \$10,750 | \$37,525 | \$56,267 | (\$102,042) | \$2,500 |
| Rent | (70,000) | (70,000) | | | (140,000) |

| | | | | |
|-------------------------------|--------------------------------|-------------|--------------------------|------------------|
| (d) | Future Taxable (Deductible) | Tax | <u>Future income tax</u> | |
| | <u>Amounts</u> | <u>Rate</u> | <u>Asset</u> | <u>Liability</u> |
| <u>Reversible Differences</u> | | | | |
| CCA | \$ 2,500 | 40% | | \$1,000 |
| Rent | (140,000) | 40% | \$(56,000) | |
| Totals | <u>\$(137,500)</u> | | <u>\$(56,000)</u> | <u>\$1,000</u> |

Solution 18-64 (Continued)

| | | | |
|-----|--|--------------------|--------|
| (e) | Future income tax asset at end of 2012 | \$ (56,000) | |
| | Future income tax asset at beg. of 2012 | <u>-0-</u> | |
| | Future income tax (benefit) | <u>\$ (56,000)</u> | |
| | Future income tax liability at end of 2012 | \$ 1,000 | |
| | Future income tax asset at beg. of 2012 | <u>(10,000)</u> | |
| | Future income tax expense | <u>\$ 11,000</u> | |
| | Future income tax (benefit) | \$ (56,000) | |
| | Future income tax expense | <u>11,000</u> | |
| | Net future income tax (benefit) for 2012 | <u>\$ (45,000)</u> | |
| (f) | Current Income Tax Expense (\$180,000 x 40%) | 72,000 | |
| | Income Tax Payable | | 72,000 |
| | Future Income Tax Asset | 56,000 | |
| | Future Income Tax Benefit..... | | 45,000 |
| | Future Income Tax Asset..... | | 10,000 |
| | Future Income Tax Liability..... | | 1,000 |

Pr. 18-65—Interperiod tax allocation with change in enacted tax rates.

Yoda Corp purchased equipment for \$180,000 on January 2, 2011, its first day of operations. For book purposes, the equipment will be depreciated using the straight-line method over three years with no residual value. Pretax accounting income and taxable income are as follows:

| | <u>2011</u> | <u>2012</u> | <u>2013</u> |
|--------------------------|-------------|-------------|-------------|
| Pretax accounting income | \$124,000 | \$140,000 | \$150,000 |
| Taxable income | 100,000 | 140,000 | 174,000 |

The reversible difference between pretax accounting income and taxable income is due to the use of CCA for tax purposes.

Instructions

- Prepare the adjusting journal entries to record income taxes for all three years (expense, future tax assets and future tax liabilities), assuming that the enacted income tax rate for all three years is 30%.
- Prepare the adjusting journal entries to record income taxes for all three years (expense, future tax assets and future tax liabilities), assuming that the enacted income tax rate for 2011 is 30% but that in the middle of 2012, Parliament raises the income tax rate to 35%, retroactive to the beginning of 2012.

Solution 18-65

| (a) | <u>2011</u> | <u>2012</u> | <u>2013</u> | <u>Total</u> |
|---|--------------------|---------------|-----------------|----------------|
| Book depreciation | \$ 60,000 | \$60,000 | \$60,000 | \$180,000 |
| CCA | <u>84,000</u> | <u>60,000</u> | <u>36,000</u> | <u>180,000</u> |
| Reversible difference | <u>\$ (24,000)</u> | <u>\$ -0-</u> | <u>\$24,000</u> | <u>\$ -0-</u> |
| | | | | |
| 2011 Current Income Tax Expense (\$100,000 × 30%)..... | | | 30,000 | |
| Income Tax Payable..... | | | | 30,000 |
| | | | | |
| Future Income Tax Expense (\$24,000 × 30%) | | | 7,200 | |
| Future Income Tax Liability | | | | 7,200 |
| | | | | |
| 2012 Current Income Tax Expense (\$140,000 × 30%) | | | 42,000 | |
| Income Tax Payable..... | | | | 42,000 |
| | | | | |
| 2013 Current Income Tax Expense (\$174,000 × 30%) | | | 52,200 | |
| Income Tax Payable..... | | | | 52,200 |
| | | | | |
| Future Income Tax Liability (\$24,000 × 30%) | | | 7,200 | |
| Future Income Tax Expense | | | | 7,200 |
| | | | | |
| (b) 2011 Current Income Tax Expense (\$100,000 × 30%) | | | 30,000 | |
| Income Tax Payable..... | | | | 30,000 |
| | | | | |
| Future Income Tax Expense (\$24,000 × 30%)..... | | | 7,200 | |
| Future Income Tax Liability | | | | 7,200 |
| | | | | |
| 2012 Current Income Tax Expense (\$140,000 × 35%) | | | 49,000 | |
| Income Tax Payable..... | | | | 49,000 |
| | | | | |
| Future Income Tax Expense | | | 1,200 | |
| Future Income Tax Liability | | | | 1,200* |
| | | | | |
| *Future taxable amount | <u>\$24,000</u> | | | |
| Future income tax @ 30% | <u>7,200</u> | | | |
| Future income tax @ 35% | <u>8,400</u> | | | |
| Adjustment required | <u>\$ 1,200</u> | | | |
| | | | | |
| 2013 Current Income Tax Expense (\$174,000 × 35%) | | | 60,900 | |
| Income Tax Payable..... | | | | 60,900 |
| | | | | |
| Future Income Tax Liability (\$24,000 × 35%) | | | 8,400 | |
| Future Income Tax Expense | | | | 8,400 |

Pr. 18-66—Deferred income tax asset.

Lunenberg Ltd, a publicly accountable enterprise, began business on January 1, 2011. Its pretax accounting income for the first two years was as follows:

| | |
|------|-----------|
| 2011 | \$ 80,000 |
| 2012 | 150,000 |

The following items caused the only differences between pretax accounting income and taxable income.

1. In 2011, the company collected \$75,000 in rental revenue; of this amount, \$25,000 was earned in 2011; the other \$50,000 will be earned equally during 2012 and 2013. The full \$75,000 was included in taxable income in 2011.
2. The company pays \$5,000 a year for membership in a local golf club.
3. In 2012, the company terminated a top executive and agreed to pay \$30,000 severance pay. This will be paid \$10,000 each year for three years, starting in 2012. The 2012 payment was made. The entire \$30,000 was expensed in 2012 for book purposes. For tax purposes, the severance pay is deductible only when it is paid.

The enacted tax rates at December 31, 2011 are:

| | | | |
|------|-----|------|-----|
| 2011 | 30% | 2013 | 40% |
| 2012 | 35% | 2014 | 40% |

Instructions

- (a) Calculate taxable income for 2011 and 2012.
- (b) Calculate the deferred income tax asset and/or liability at the end of 2011, and prepare the adjusting journal entries to record income taxes for 2011.
- (c) Prepare a schedule of future taxable and deductible amounts at the end of 2012.
- (d) Prepare a schedule of the deferred income tax asset and/or liability at the end of 2012.
- (e) Calculate the deferred income tax expense (benefit) for 2012.
- (f) Prepare the journal entries to record income taxes for 2012 (both current and deferred).
- (g) Show how the deferred income taxes should be reported on the balance sheet at December 31, 2012.

Solution 18-66

| | | | | |
|-----|--|--------------------------------|------------------|---|
| (a) | | <u>2011</u> | <u>2012</u> | |
| | Pretax accounting income | \$80,000 | \$150,000 | |
| | Permanent difference: | | | |
| | Golf club membership | <u>5,000</u> | <u>5,000</u> | |
| | | 85,000 | 155,000 | |
| | Reversible differences: | | | |
| | Rent | 50,000 | (25,000) | |
| | Severance pay | <u>-0-</u> | <u>20,000</u> | |
| | Taxable income | <u>\$135,000</u> | <u>\$150,000</u> | |
| | | | | |
| (b) | | <u>2011</u> | <u>2012</u> | <u>Total</u> |
| | Future taxable (deductible) amounts: | | | |
| | Rent | \$(25,000) | \$(25,000) | \$(50,000) |
| | Tax rate | <u>35%</u> | <u>40%</u> | |
| | Future income tax (asset) liability | \$ (8,750) | \$(10,000) | <u>\$(18,750)</u> at end of 2011 |
| | Current Income Tax Expense (\$135,000 × 30%) | | | 40,500 |
| | Income Tax Payable | | | 40,500 |
| | Deferred Income Tax Asset | | | 18,750 |
| | Deferred Income Tax Expense | | | 18,750 |
| | | | | |
| (c) | | <u>2013</u> | <u>2014</u> | <u>Total</u> |
| | Future taxable (deductible) amounts: | | | |
| | Rent | \$(25,000) | | \$(25,000) |
| | Severance pay | (10,000) | \$(10,000) | (20,000) |
| | | | | |
| (d) | | Future Taxable (Deductible) | Tax Rate | Future income tax (Asset) Liability |
| | <u>Reversible Difference</u> | <u>Amounts</u> | | |
| | Rent | \$(25,000) | 40% | \$(10,000) |
| | Severance pay | <u>(20,000)</u> | 40% | <u>(8,000)</u> |
| | Totals | <u>\$(45,000)</u> | | <u>\$(18,000)</u> |
| | | | | |
| (e) | Deferred income tax asset at end of 2012 | \$(18,000) | | |
| | Deferred income tax asset at beg. of 2012 | <u>(18,750)</u> | | |
| | Deferred income tax (benefit) for 2012 | <u>\$ (750)</u> | | |
| | | | | |
| (f) | Current Income Tax Expense (\$150,000 × 35%) | | | 52,500 |
| | Income Tax Payable | | | 52,500 |
| | Deferred Income Tax Expense | | | 750 |
| | Deferred Income Tax Asset | | | 750 |
| | | | | |
| (g) | Noncurrent assets | | | |
| | Deferred Income Tax Asset (\$45,000 × 40%)..... | | | \$18,000 |

Pr. 18-67—Comprehensive income tax situation with multiple differences.

Price Fisher Ltd, a private corporation which follows Accounting Standards for Private Enterprises (ASPE), is in the process of preparing its financial statements for its second year of operations ending December 31, 2012. Pertinent information follows:

1. Accounting income before tax is \$1,500,000.
2. Depreciation on property, plant and equipment (PPE) in the books is \$150,000 and CCA claimed will be \$250,000. At the beginning of the year, the book value of the PPE was \$1,200,000.
3. Price Fisher sells a product with a 2-year warranty. The estimated warranty cost is \$100 per unit. At the beginning of 2012, the balance in the warranty liability account was \$400,000. During 2012, Price Fisher sold 5,000 units of the product and paid out \$200,000 in warranty costs. They expect that the adjusted warranty liability balance at the end of 2012 to be spent evenly over 2013 and 2014. At the end of 2011, Price Fisher had also expected the adjusted warranty liability amount to be paid evenly over 2012 and 2013.
4. The beginning balance of the Future Income Tax Liability account related to the PPE was \$60,000. The beginning balance of the Future Income Tax Asset account related to the warranty was \$160,000.
5. The accounting income before tax included \$50,000 in entertainment expenses, of which only 50% can be deducted for income tax purposes.
6. As of the beginning of 2012, the enacted income tax rate went down from 40% to 35%.
7. On December 31, 2012, the company received three years advance rent income (for 2013 through 2015) of \$90,000, which was recorded as unearned revenue for book purposes, but which must be reported as 2012 revenue for income tax purposes.

Instructions

- (a) Reconcile accounting income before tax to taxable income.
- (b) Prepare the required income tax related journal entries for 2012.
- (c) Prepare the bottom section of the 2012 income statement, beginning with income before income taxes.
- (d) What are the amounts and the balance sheet classifications of the future income tax asset and future income tax liability accounts at December 31, 2012?

Solution Pr 18-67

- (a) Reconciliation:

| | | |
|---------------------------------------|----------------|------------------|
| Accounting income before tax | | 1,500,000 |
| Add back 50% of entertainment expense | | 25,000 |
| Warranty expense | 500,000 | |
| Warranty costs allowable | <u>200,000</u> | 300,000 |
| Depreciation expense | <u>150,000</u> | |
| CCA for tax purpose | <u>250,000</u> | (100,000) |
| Rent received in advance | | <u>90,000</u> |
| Taxable income for 2012 | | <u>1,815,000</u> |
| Tax payable | | <u>635,250</u> |

Solution Pr 18-67 (Continued)

(b) Before recording the journal entries, we need to calculate the change in future income tax assets and liabilities

| | |
|---|----------------|
| <u>Future income taxes related to PPE</u> | |
| Future income tax liability Dec 31/2011 | 60,000 |
| Enacted tax rate in 2011 | 40% |
| Reversible difference due to PPE in 2011 | 150,000 |
| Reversible difference due to PPE in 2012 | <u>100,000</u> |
| Accumulated reversible differences end of 2012 | 250,000 |
| Enacted tax rate in 2012 | <u>35%</u> |
| Future income tax liability Dec 31/2012 | 87,500 |
| Increase in future income tax liability in 2012 | <u>27,500</u> |

| | |
|--|----------------|
| <u>Future income taxes related to warranty</u> | |
| Reversible difference due to warranty in 2011 | 400,000 |
| Enacted tax rate in 2011 | 40% |
| Future income tax asset Dec 31/2011 | 160,000 |
| Reversible difference due to warranty in 2012 | <u>300,000</u> |
| Accumulated reversible differences end of 2012 | 700,000 |
| Enacted tax rate in 2012 | <u>35%</u> |
| Future income tax asset Dec 31/2012 | 245,000 |
| Increase in future income tax asset in 2012 | <u>85,000</u> |

| | |
|--|---------------|
| <u>Future income taxes related to unearned rent</u> | |
| Rent received in advance | 90,000 |
| Enacted tax rate | <u>35%</u> |
| Increase in future income tax asset due to unearned rent | <u>31,500</u> |

| | |
|-----------------------------------|---------|
| Journal entries | |
| Future income tax asset | 116,500 |
| Future income tax liability | 27,500 |
| Future income tax benefit | 89,000 |
| Current income tax expense..... | 635,250 |
| Income taxes payable..... | 635,250 |

(c) Bottom section of the income statement for 2012

| | | |
|--------------------|-----------------|------------------|
| Income before tax | | 1,500,000 |
| Income tax expense | | |
| Current | 635,250 | |
| Future | <u>(89,000)</u> | <u>(546,250)</u> |
| Net income | | <u>953,750</u> |

Solution Pr 18-67 (Continued)

(d) Balance sheet presentation of future income tax accounts

Current Assets

Future income tax asset $((245,000 \times \frac{1}{2}) + (31,500 \times \frac{1}{3})) = \underline{133,000}$

Non-Current Assets

Future income tax asset $((245,000 \times \frac{1}{2}) + (31,500 \times \frac{2}{3})) = 143,500$

Future income tax liability 87,500

56,000

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CHAPTER 19

PENSIONS AND OTHER EMPLOYEE FUTURE BENEFITS

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|---|
| c | 1. | Employee future benefits. |
| c | 2. | Nature of a defined contribution plan. |
| b | 3. | Nature of a defined benefit plan. |
| b | 4. | Objective of accounting for defined benefit plans. |
| c | 5. | Meaning of funding a pension plan. |
| d | 6. | Accounting problems in pension plans. |
| d | 7. | Main purpose of an actuary. |
| a | 8. | Definition of accrued benefit obligation. |
| d | 9. | Characteristics of vested benefits. |
| d | 10. | Pension funding and pension expense recognition. |
| b | 11. | Increase in accrued benefit obligation. |
| c | 12. | Definition of attribution period. |
| a | 13. | Definition of liability experience gain or loss. |
| c | 14. | Definition of asset experience gain or loss. |
| a | 15. | Nature of plan assets. |
| b | 16. | Actual return on plan assets. |
| d | 17. | Accrued pension asset/liability. |
| c | 18. | Recognition of past service costs using immediate recognition approach. |
| b | 19. | Recording unrecognized actuarial gains and losses using deferral and amortization approach. |
| b | 20. | Recognition of accrued pension asset. |
| a | 21. | Identify correct statement. |
| b | 22. | Plan funded status. |
| c | 23. | Rationale for expensing past service costs using immediate recognition. |
| a | 24. | Advantage of immediate recognition approach. |
| d | 25. | Corridor amortization. |
| a | 26. | Post-retirement benefits. |
| c | 27. | Post-retirement health care benefits. |
| c | 28. | Disclosure of post-retirement benefits . |
| b | 29. | Recording/disclosure of post-retirement benefit obligations. |
| c | 30. | Identify incorrect statement. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|--|
| b | 31. | Calculate pension expense. |
| c | 32. | Calculate pension expense. |
| c | 33. | Calculate pension expense. |
| b | 34. | Calculate pension expense. |
| d | 35. | Calculate pension expense. |
| c | 36. | Calculate increase in accrued pension asset/liability. |
| b | 37. | Calculate total accrued pension asset/liability. |
| b | 38. | Calculate accrued pension asset/liability. |
| b | 39. | Calculate actuarial gain/loss. |
| d | 40. | Calculate accrued pension asset/liability. |
| b | 41. | Calculate actuarial gain/loss. |
| a | 42. | Calculate accrued pension asset/liability. |
| d | 43. | Calculate corridor amount. |
| d | 44. | Calculate pension expense. |
| c | 45. | Calculate accrued pension asset/liability. |
| d | 46. | Calculate amortization of past service costs. |
| b | 47. | Calculate accrued pension asset/liability. |
| d | 48. | Calculate balance of accrued benefit obligation. |
| c | 49. | Calculate fair value of plan assets. |
| c | 50. | Calculate interest cost. |
| b | 51. | Calculate actual return on plan assets. |
| a | 52. | Calculate unexpected gain/loss on plan assets. |
| b | 53. | Calculate corridor amount. |
| b | 54. | Calculate unrecognized net actuarial gain. |
| b | 55. | Calculate post-retirement expense. |
| c | 56. | Calculate post-retirement expense. |
| b | 57. | Calculate post-retirement expense. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|---|
| d | 58. | Calculate balance of accrued benefit obligation. |
| a | 59. | Calculate accrued pension asset/liability. |
| a | 60. | Calculate accrued pension asset/liability. |
| c | 61. | Calculate pension expense. |
| a | 62. | Calculate accrued pension asset/liability. |
| c | 63. | Calculate pension plan funded status. |
| b | 64. | Obligation of a defined benefit plan. |
| a | 65. | Reporting accrued pension asset/liability. |
| b | 66. | Nature of interest cost included in pension cost |
| d | 67. | Comparison of service costs and pension costs in consecutive years. |

EXERCISES

| Item | Description |
|--------|---|
| E19-68 | Pension accounting terminology. |
| E19-69 | Pension assets. |
| E19-70 | Approaches to accounting for pension expense. |
| E19-71 | Measuring and recording pension expense. |
| E19-72 | Calculating accrued pension asset/liability. |
| E19-73 | Pension plan calculations and journal entries. |
| E19-74 | Corridor amortization. |
| E19-75 | Pension plan calculation and entries. |
| E19-76 | Corridor approach for amortization of actuarial gains and losses. |
| E19-77 | Pension reconciliation schedule. |
| E19-78 | Pension plan calculations. |
| E19-79 | Measuring and recording pension expense. |
| E19-80 | Calculating and recording post-retirement expense. |

PROBLEMS

| Item | Description |
|--------|--|
| P19-81 | Measuring and recording pension expense. |
| P19-82 | Preparation of a pension work sheet and pension entries. |
| P19-83 | Amortization of past service costs using EARSL. |
| P19-84 | Measuring, recording, and reporting pension expense and liability. |
| P19-85 | Calculating pension expense and pension plan funded status. |

MULTIPLE CHOICE—Conceptual

1. Which of the following is *not* considered to be an employee future benefit?
 - a. Post-retirement pension plans.
 - b. Long-term severance benefits.
 - c. Regular vacation pay.
 - d. Unrestricted sabbatical leaves.

2. In a defined contribution plan, a formula is used that
 - a. defines the benefits that the employee will receive at retirement.
 - b. ensures that pension expense and the cash funding amount will be different.
 - c. requires an employer to contribute a certain sum each period based on the formula.
 - d. ensures that employers are at risk to make sure funds are available at retirement.

3. In a defined benefit plan, a formula is used that
 - a. requires that the benefit of gain or the risk of loss from the assets contributed to the pension plan be borne by the employee.
 - b. defines the benefits that the employee will receive at retirement.
 - c. requires that pension expense and the cash funding amount to be the same.
 - d. defines the contribution the employer is to make; no promise is made concerning the ultimate benefits to be paid out to the employees.

4. The objective of accounting for defined benefit plans is to
 - a. calculate the actual amounts employees will receive at retirement.
 - b. recognize the related expense and liability over the accounting periods in which the related services are provided by the employees.
 - c. calculate the current service cost.
 - d. determine which employees' rights have vested.

5. In a defined benefit plan, for the employer, the term "funding" refers to
 - a. being responsible for the assets of the pension plan.
 - b. determining the accumulated benefit obligation.
 - c. making periodic contributions to a funding agency to ensure that funds are available to meet retirees' claims.
 - d. calculating the amount to report for pension expense.

6. Accounting problems for all pension plans may include all the following *except*
 - a. measuring the amount of pension obligation.
 - b. reporting the status and effects of the plan in the financial statements.
 - c. allocating the cost of the plan to the proper periods.
 - d. determining the level of individual premiums.

7. In pension accounting, the actuary's *main* purpose is to
 - a. make predictions about mortality rates and employee turnover.
 - b. calculate the current pension cost.
 - c. calculate the interest cost of the pension plan.
 - d. ensure the employer has established an appropriate funding pattern to meet its pension obligations.

8. The accrued benefit obligation for accounting purposes is
 - a. the present value of vested and non-vested benefits earned to the balance sheet date, with the benefits measured using employees' future salary levels.
 - b. the present value of vested and non-vested benefits earned to the balance sheet date, with the benefits measured using employees' current salary levels.
 - c. the present value of vested benefits only earned to the balance sheet date, with the benefits measured using employees' future salary levels.
 - d. the present value of non-vested benefits only earned to the balance sheet date, with the benefits measured using employees' future salary levels.

9. Vested benefits
 - a. usually require a certain minimum number of years of service.
 - b. are those that the employee is entitled to receive even if s/he is fired.
 - c. are not contingent upon additional service under the plan.
 - d. are defined by all of these.

10. The relationship between the amount funded and the amount reported for pension expense is that:
 - a. pension expense must always equal the amount funded.
 - b. pension expense will be less than the amount funded.
 - c. pension expense will be more than the amount funded.
 - d. pension expense may be greater than, equal to, or less than the amount funded.

11. The accrued benefit obligation is always increased by
 - a. current service cost and payments to retirees.
 - b. current service cost and interest cost.
 - c. interest cost and actuarial gains.
 - d. current service cost and past service costs.

12. For defined benefit plans, the attribution period for employees is the time between
 - a. the hire date and the vesting date.
 - b. the vesting date and the date the employee becomes eligible for full benefits.
 - c. the hire date and the date the employee becomes eligible for full benefits.
 - d. the hire date and the date the employee reaches 65.

13. A liability experience gain or loss is an unexpected gain or loss that changes
 - a. the amount of the accrued benefit obligation.
 - b. the value of the pension plan assets.
 - c. the interest rate to be used for the pension obligation.
 - d. the amount of benefits paid to retirees.

14. An asset experience gain or loss is
 - a. additional contributions made to the pension fund by the employer.
 - b. additional contributions made to the pension fund by the employees.
 - c. the difference between the expected return on the pension fund and the actual return.
 - d. reduced payments made to retirees.

15. Pension plan assets include
 - a. contributions made by the employer and the employees in a contributory pension plan.
 - b. plan assets under the control of the employer.
 - c. only assets reported on the employer's balance sheet as the accrued pension asset or liability.
 - d. the accrued pension obligation.

16. The actual return on plan assets
 - a. is the change in the fair value of the plan assets during the year.
 - b. includes interest, dividends, and gains or losses from the sale of investments.
 - c. is the actual rate of return times the fair value of the plan assets at the beginning of the period.
 - d. includes the employer's contributions.

17. In accounting for a defined benefit pension plan, any difference between the pension expense and the payments into the fund should be reflected in
 - a. a contra account to the accrued pension obligation.
 - b. an accrued actuarial liability.
 - c. a note to the financial statements only.
 - d. the accrued pension asset/liability.

18. Using the immediate recognition approach, any past service costs should be included in
 - a. operations of current and future periods.
 - b. operations of past periods.
 - c. operations of the current period.
 - d. retained earnings.

19. Using the deferral and amortization approach, unrecognized net actuarial gains and losses should be
 - a. recorded currently as an adjustment to pension expense in the period incurred.
 - b. recorded currently and in the future by applying the corridor method which provides the amount to be amortized.
 - c. amortized over a 15-year period.
 - d. recorded only if a loss is determined.

20. An accrued pension asset is reported when
 - a. the accrued benefit obligation exceeds the fair value of pension plan assets.
 - b. the fair value of pension plan assets exceeds the accrued benefit obligation.
 - c. the pension expense for the period is the same as the contributions made to the pension plan for the same period.
 - d. the vested benefits exceed the fair value of pension plan assets.

21. Which of the following statements is *correct*?
 - a. There is a general ledger account called Accrued Pension Asset/Liability.
 - b. There is a general ledger account called Accrued Benefit Obligation.
 - c. There is a general ledger account called Pension Fund Assets.
 - d. Accrued Pension Asset/Liability and Accrued Benefit Obligation should both be reported on the balance sheet.

22. The difference between the accrued benefit obligation and the pension assets' fair value at any point in time is known as the plan's
- fair value.
 - funded status.
 - asset experience gain or loss.
 - actual return.
23. Under the immediate recognition approach, all past services costs are expensed. The rationale for doing this is that
- they are usually immaterial.
 - they relate to non-vested services, so there is no justification for deferring their recognition to future periods' incomes.
 - they relate to past services, so there is no justification for deferring their recognition to future periods' incomes.
 - CRA will not allow them to be deferred.
24. An advantage of the immediate recognition approach is that
- the Accrued Pension Asset/Liability account reflects the actual funded status of the pension plan.
 - unrecognized past service costs are deferred and amortized over future periods.
 - it averages out the pension expense from year to year.
 - it does not recognize actuarial gains and losses.
25. Corridor amortization for net actuarial gains and losses
- only applies when the immediate recognition approach is used.
 - can be used for either the immediate recognition approach or the deferral and amortization approach.
 - is only used by the actuary.
 - amortizes the net accumulated gain or loss when its balance is considered too large.
26. Post-retirement benefits may include all of the following *except*
- severance pay to laid-off employees.
 - dental care.
 - legal and tax services.
 - tuition assistance.
27. Which of the following statements is *correct* about post-retirement health care benefits?
- They are generally funded.
 - The benefits are well-defined and level in dollar amount.
 - The beneficiary is the retiree, spouse, and other dependents.
 - The benefit is payable monthly.
28. Which of the following disclosures of post-employment benefits would *not* be required?
- The cost of post-employment benefits during the period.
 - A description of the accounting and funding policies followed.
 - The amount of the actuarial liability for benefits such as paternity leave.
 - The assumptions and rates used in calculating the accrued benefit obligation.

29. Accrued post-retirement benefit obligations are
- recorded at their present value.
 - recorded in the same manner as pension benefit obligations.
 - not recognized in the financial statements.
 - disclosed in the notes to the financial statements only.
30. Which of the following statements is *incorrect*?
- Most pension plan employers report their pension assets or liabilities in the appropriate long-term classifications.
 - An employer with two or more defined benefit plans is required to measure the benefit cost of each plan separately.
 - IFRS specifies how the components of pension benefit costs are to be reported on the income statement.
 - Underlying assumptions, such as how the expected return on plan assets is determined, are required to be disclosed.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | c | 6. | d | 11. | b | 16. | b | 21. | a | 26. | a |
| 2. | c | 7. | d | 12. | c | 17. | d | 22. | b | 27. | c |
| 3. | b | 8. | a | 13. | a | 18. | c | 23. | c | 28. | c |
| 4. | b | 9. | d | 14. | c | 19. | b | 24. | a | 29. | b |
| 5. | c | 10. | d | 15. | a | 20. | b | 25. | d | 30. | c |

MULTIPLE CHOICE—Computational

31. Presented below is pension information related to Apple Inc. for the year 2012. The corporation uses the deferral and amortization approach.

| | |
|---|-----------|
| Service cost | \$144,000 |
| Interest on accrued benefit obligation | 108,000 |
| Expected and actual return on plan assets | 36,000 |
| Amortization of past service costs | 24,000 |

The pension expense to be reported for 2012 is

- a. \$216,000.
 b. \$240,000.
 c. \$288,000.
 d. \$324,000.
32. Presented below is pension information related to Banana Inc. for the year 2012. The corporation uses the immediate recognition approach.

| | |
|--|-----------|
| Service cost | \$ 50,000 |
| Contributions to the plan | 55,000 |
| Actual return on plan assets | 45,000 |
| Accrued benefit obligation (beginning of year) | 600,000 |
| Fair value of plan assets (beginning of year) | 400,000 |
| Interest cost on the obligation | 10% |

The pension expense to be reported for 2012 is

- a. \$110,000.
 b. \$ 70,000.
 c. \$ 65,000.
 d. \$ 50,000.
33. Presented below is pension information related to Cantaloupe Ltd. for the year 2012. The corporation uses the immediate recognition approach.

| | |
|--|-----------|
| Service cost | \$900,000 |
| Actual return on plan assets | 210,000 |
| Interest on accrued benefit obligation | 390,000 |
| Actuarial experience loss | 90,000 |
| Past service costs agreed to at Jan 1/12 | 165,000 |

The pension expense to be reported for 2012 is

- a. \$1,515,000.
 b. \$1,395,000.
 c. \$1,335,000.
 d. \$1,155,000.

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34. Daikon Ltd. received the following information from its pension plan trustee concerning their defined benefit pension plan for the year ended December 31, 2012. The corporation uses the deferral and amortization approach.

| | <u>Jan 1, 2012</u> | <u>Dec 31, 2012</u> |
|---------------------------------|--------------------|---------------------|
| Fair value of plan assets | \$2,100,000 | \$2,250,000 |
| Accrued benefit obligation | 2,400,000 | 2,580,000 |
| Unrecognized past service costs | 270,000 | 240,000 |

For 2012, the service cost for is \$180,000 and the amortization of the past service costs is \$30,000. The interest rate on the liability is 10% and the expected rate of return on plan assets is 9%. What is the amount of pension expense for 2012?

- \$265,500.
- \$261,000.
- \$216,000.
- \$180,000.

Use the following information for questions 35 through 37.

The following information is available for Figgy Enterprises Ltd for 2012. The corporation uses the deferral and amortization approach.

| | |
|---|-------------|
| Plan assets (at fair value) - Dec 31 | \$1,800,000 |
| Accrued benefit obligation - Dec 31 | 1,920,000 |
| Accrued pension asset/liability – Jan 1 | 48,000 Cr |
| Pension expense for year | 360,000 |
| Pension contribution for 2012 | 324,000 |
| Unrecognized past service costs | 414,000 |
| Unrecognized actuarial gains | 210,000 |

35. What amount of pension expense should Figgy report for 2012?
- \$120,000.
 - \$252,000.
 - \$324,000.
 - \$360,000.
36. How much should the Accrued Pension Asset/Liability be increased (decreased) by at December 31, 2012?
- \$120,000 increase.
 - \$ 84,000 decrease.
 - \$ 36,000 increase.
 - \$ 36,000 decrease.
37. What amount should be reported on the balance sheet as Accrued Pension Asset/Liability at December 31, 2012?
- \$ 36,000 liability.
 - \$ 84,000 liability.
 - \$ 84,000 asset.
 - \$120,000 liability.

Use the following information for questions 38 through 41.

The following information relates to Gooseberry Corp for their past two fiscal years. The corporation uses the deferral and amortization approach.

| | <u>2012</u> | <u>2013</u> |
|---------------------------------|-------------|-------------|
| Plan assets (at fair value) | \$630,000 | \$912,000 |
| Pension expense | 285,000 | 225,000 |
| Accrued benefit obligation | 810,000 | 942,000 |
| Annual contribution to plan | 300,000 | 225,000 |
| Unrecognized past service costs | 240,000 | 210,000 |

38. The net amount to be recorded as accrued pension asset/liability at December 31, 2012 is
- \$ -0-.
 - \$15,000 Dr.
 - \$15,000 Cr.
 - \$40,000 Dr.
39. The amount of the actuarial gain/loss at December 31, 2012 is
- \$45,000 loss.
 - \$45,000 gain.
 - \$60,000 gain.
 - \$180,000 loss.
40. The amount reported as the accrued pension asset/liability at December 31, 2013 is
- \$ -0-.
 - \$30,000.
 - \$45,000.
 - \$15,000.
41. The amount of the actuarial gain/loss at December 31, 2013 is
- \$30,000 gain.
 - \$165,000 gain.
 - \$180,000 gain.
 - \$195,000 gain.

Use the following information for questions 42 and 43.

Presented below is information related to Kiwi Ltd. at December 31, 2012. The corporation uses the deferral and amortization approach.

| | |
|---|-----------|
| Unrecognized actuarial gains and losses | \$ 28,000 |
| Accrued benefit obligation | 1,720,000 |
| Vested benefits | 810,000 |
| Plan assets (at fair value) | 1,692,000 |
| Unrecognized past service costs | -0- |

42. The net amount to be recorded as accrued pension asset/liability at December 31, 2012 is
- a. \$ -0-
 - b. \$ 18,000.
 - c. \$ 45,000.
 - d. \$108,000.

43. The amount that Kiwi would use as the corridor for the treatment of the actuarial gains/losses for 2012 would be
- a. \$2,800.
 - b. \$81,000.
 - c. \$169,200.
 - d. \$172,000.

44. At the end of 2012, Lime Inc has determined the following adjusted information related to its defined benefit pension plan:

| | |
|-----------------------------------|-------------|
| Accrued benefit obligation | \$1,320,000 |
| Fair value of pension plan assets | 1,220,000 |

Assume the accrued pension asset/liability account at January 1, 2012 was nil. If the contribution to plan assets in 2012 is \$410,000, the pension expense for 2012 is

- a. \$100,000.
 - b. \$310,000.
 - c. \$410,000.
 - d. \$510,000.
45. Presented below is pension information related to Mango Ltd at December 31, 2012. The corporation uses the deferral and amortization approach.

| | |
|---------------------------------|-------------|
| Accrued benefit obligation | \$3,500,000 |
| Plan assets (at fair value) | 2,500,000 |
| Unrecognized past service costs | 100,000 |

The amount to be reported as accrued pension asset/liability at December 31, 2012 is

- a. \$1,100,000.
 - b. \$1,000,000.
 - c. \$ 900,000.
 - d. \$ 600,000.
46. Orange Ltd. has a defined benefit pension plan covering its 50 employees. Orange agreed to amend its pension benefits. As a result, the accrued benefit obligation increased by \$300,000, due to the past service costs. Orange determined that all of its employees are expected to receive benefits under the plan over the next 5 years. In addition, 20% are expected to retire or quit each year. Assuming that Orange uses the expected period to full eligibility to amortize the past service costs, the amount reported as amortization of past service costs in the first year after the amendment is
- a. \$ 30,000.
 - b. \$ 60,000.
 - c. \$ 80,000.
 - d. \$100,000.

47. Presented below is information related to Peach Manufacturing Corporation's defined benefit pension plan at December 31, 2012. The corporation uses the deferral and amortization approach.

| | |
|---|-------------|
| Accrued benefit obligation in excess of plan assets | \$1,200,000 |
| Unrecognized net actuarial gain | 400,000 |
| Unrecognized past service costs | 540,000 |

The amount to be reported as accrued pension asset/liability at the end of 2012 is

- \$ -0-
- \$1,060,000.
- \$1,200,000.
- \$1,340,000.

Use the following information for questions 48 and 49.

On January 1, 2012, Quince Inc. reported the following balances related to their defined benefit pension plan. The corporation uses the deferral and amortization approach.

| | |
|----------------------------|-------------|
| Accrued benefit obligation | \$1,400,000 |
| Fair value of plan assets | 1,250,000 |

The interest rate for the obligation and the plan assets is 10%. Other data related to the pension plan for 2012 are:

| | |
|--|----------|
| Service cost | \$80,000 |
| Amortization of unrecognized past service costs | 18,000 |
| Contributions | 90,000 |
| Benefits paid | 75,000 |
| Actual return on plan assets | 88,000 |
| Amortization of unrecognized net actuarial gains | 6,000 |

48. The balance of the accrued benefit obligation at December 31, 2012 is
- \$1,524,000.
 - \$1,530,000.
 - \$1,543,000.
 - \$1,545,000.
49. The fair value of the plan assets at December 31, 2012 is
- \$1,177,000.
 - \$1,263,000.
 - \$1,353,000.
 - \$1,428,000.

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Use the following information for questions 50 through 54.

The following information relates to the defined benefit pension plan for the employees of Raspberry Ltd. The corporation uses the deferral and amortization approach.

| | <u>Jan 1/11</u> | <u>Dec 31/11</u> | <u>Dec 31/12</u> |
|---------------------------------|-----------------|------------------|------------------|
| Accrued benefit obligation | 2,325,000 | 2,490,000 | 3,335,000 |
| Fair value of plan assets | 2,125,000 | 2,600,000 | 2,870,000 |
| Unrecognized net actuarial gain | -0- | 360,000 | 400,000 |
| Interest cost on ABO | | 11% | 11% |
| Expected rate of return | | 8% | 7% |

Raspberry estimates that the employee average remaining service life (EARSL) is 16 years. In 2012, Raspberry contributed \$315,000 to the pension fund, and the fund trustee paid \$235,000 in benefits to retirees.

50. The interest cost for 2012 is
- a. \$224,100.
 - b. \$253,000.
 - c. \$273,900.
 - d. \$366,850.
51. The actual return on plan assets in 2012 is
- a. \$170,000.
 - b. \$190,000.
 - c. \$245,000.
 - d. \$270,000.
52. The unexpected gain or loss on plan assets in 2012 is
- a. \$ 8,000 gain.
 - b. \$16,400 loss.
 - c. \$63,600 gain.
 - d. \$89,400 gain.
53. The corridor for 2012 is
- a. \$258,000.
 - b. \$260,000.
 - c. \$282,500.
 - d. \$333,500.
54. The amount of unrecognized net actuarial gain amortized in 2012 is
- a. \$6,375.
 - b. \$6,250.
 - c. \$4,844.
 - d. \$4,157.

55. The following facts relate to the Squash Corp. post-retirement benefits plan for 2012:

| | |
|---|-----------|
| Service cost | \$102,000 |
| Discount (interest) rate | 9% |
| Accrued benefit obligation, January 1, 2012 | \$900,000 |
| Benefits paid to employees | \$69,000 |

The post-retirement benefit expense for 2012 is

- a. \$102,000.
- b. \$183,000.
- c. \$210,000.
- d. \$252,000.

56. The following facts relate to the Tomato Inc. post-retirement benefits plan for 2012:

| | |
|--|-------------|
| Service cost | \$340,000 |
| Discount (interest) rate | 8% |
| Accrued benefit obligation, January 1, 2012 (transitional amount) | \$2,000,000 |
| Average remaining service to full eligibility | 20 years |
| Average remaining service to expected retirement | 25 years |

The post-retirement benefit expense for 2012 is

- a. \$612,000.
- b. \$600,000.
- c. \$580,000.
- d. \$420,000.

57. The following facts relate to the Watermelon Corp. post-retirement benefits plan for 2012:

| | |
|---|-----------|
| Service cost | \$126,000 |
| Discount (interest rate) rate | 10% |
| Accrued benefit obligation, January 1, 2012 | \$900,000 |
| Actual return on plan assets in 2012 | \$31,500 |
| Expected return on plan assets in 2012 | \$24,000 |

The post-retirement benefit expense for 2012 is

- a. \$184,500.
- b. \$192,000.
- c. \$211,500.
- d. \$216,000.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 31. | b | 36. | c | 41. | b | 46. | d | 51. | b | 56. | c |
| 32. | c | 37. | c | 42. | a | 47. | b | 52. | a | 57. | b |
| 33. | c | 38. | b | 43. | d | 48. | d | 53. | b | | |
| 34. | b | 39. | b | 44. | d | 49. | c | 54. | b | | |
| 35. | d | 40. | d | 45. | c | 50. | c | 55. | b | | |

MULTIPLE CHOICE—CPA Adapted

58. The following information pertains to Rembrandt Inc's pension plan:

| | |
|--|----------|
| Accrued benefit obligation at Jan 1/12 | \$96,000 |
| Interest rate on ABO | 10% |
| Service costs for 2012 | \$24,000 |
| Pension benefits paid during 2012 | \$20,000 |

If no change in actuarial estimates occurred during 2012, Rembrandt's accrued benefit obligation at December 31, 2012 would be

- a. \$85,600.
 - b. \$100,000.
 - c. \$105,600.
 - d. \$109,600.
59. At December 31, 2012, the following information was provided by the Leonardo Corp. defined benefit pension plan administrator:

| | |
|----------------------------|-------------|
| Fair value of plan assets | \$5,000,000 |
| Accrued benefit obligation | 6,200,000 |

What is the amount of the accrued pension asset/liability account that should be shown on Leonardo's December 31, 2012 balance sheet?

- a. \$1,200,000 credit.
 - b. \$1,200,000 debit.
 - c. \$6,200,000 credit.
 - d. \$6,200,000 debit.
60. On January 1, 2012, Van Gogh Corp. adopted a defined benefit pension plan, for which they are using the deferral and amortization approach. The plan's service cost of \$250,000 was fully funded at the end of 2012. Past service costs were funded by a contribution of \$100,000 in 2012. Amortization of past service costs was \$40,000 for 2012. What is the amount of Van Gogh's accrued pension asset/liability at December 31, 2012?
- a. \$ 60,000.
 - b. \$100,000.
 - c. \$140,000.
 - d. \$150,000.

61. Thomson Corp provides a defined benefit pension plan for its employees, and uses the deferral and amortization approach to account for it. The company's actuary has provided the following information for the year ended December 31, 2012:

| | |
|---|---------|
| Accrued benefit obligation | 525,000 |
| Fair value of plan assets | 825,000 |
| Service cost | 240,000 |
| Interest on accrued benefit obligation | 24,000 |
| Amortization of unrecognized past service costs | 60,000 |
| Expected and actual return on plan assets | 82,500 |

No contributions to the plan have yet been made for 2012. For the year ended December 31, 2012, Thomson should report pension expense of

- \$406,500.
- \$324,000.
- \$241,500.
- \$217,500.

Use the following information for questions 62 and 63.

Bateman Corp. provides a defined benefit pension plan for its employees, and uses the deferral and amortization approach to account for it. The trustee administering the plan provided the following information for the year ended December 31, 2012:

| | |
|----------------------------------|-------------|
| Fair value of plan assets | \$1,200,000 |
| Accrued benefit obligation | 1,335,000 |
| Pension expense | 300,000 |
| Employer's contribution for year | 360,000 |
| Unrecognized past service costs | 30,000 |

On December 31, 2011, the accrued pension asset/liability account had a debit balance of \$45,000.

62. At December 31, 2012, what is the amount of accrued pension asset/liability?
- \$105,000.
 - \$ 90,000.
 - \$ 60,000.
 - \$ 15,000.
63. In the December 31, 2012 financial statements, how much would be reported as the plan's funded status (liability)?
- \$ 60,000.
 - \$105,000.
 - \$135,000.
 - \$165,000.

64. Renoir Inc. provides a defined benefit pension plan for its employees. At each balance sheet date, Renoir should disclose an obligation equal to the
- unfunded benefit obligation.
 - accrued benefit obligation.
 - accrued benefit obligation less the fair value of the plan assets.
 - accrued pension asset/liability.
65. Magritte Inc. provides a defined benefit pension plan for its employees. As of December 31, 2012, the fair value of the plan assets is less than the accrued benefit obligation. In its balance sheet as of December 31, 2012, Magritte should report an accrued pension asset/liability of the
- excess of the accrued benefit obligation over the fair value of the plan assets.
 - excess of the plan assets over the accrued benefit obligation.
 - accrued benefit obligation.
 - fair value of the plan assets.
66. The interest cost included in the annual pension cost recorded by an employer sponsoring a defined benefit pension plan represents the
- difference between the expected and actual return on plan assets.
 - increase in the accrued benefit obligation due to the passage of time.
 - increase in the fair value of plan assets due to the passage of time.
 - interest earned on the plan assets for the year.
67. Effective January 1, 2012, Lautrec Corp. established a defined benefit plan with no retroactive benefits. The first of the required equal annual contributions was paid on December 31, 2012. A 10% discount rate was used to calculate service cost and a 10% rate of return was assumed for plan assets. All information on covered employees for 2012 and 2013 is the same. How should the service cost for 2013 compare with 2012, and should the 2012 balance sheet report an accrued pension asset or an accrued pension liability?

- | | | |
|----|---|--|
| | Service Cost for 2013 <u>Compared to 2012</u> | Pension Cost Reported on the <u>2012 Balance Sheet</u> |
| a. | Equal to | Liability |
| b. | Equal to | Asset |
| c. | Greater than | Liability |
| d. | Greater than | Asset |

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 58. | d | 60. | a | 62. | a | 64. | b | 66. | b |
| 59. | a | 61. | c | 63. | c | 65. | a | 67. | d |

DERIVATIONS—Computational

| No. | Answer | Derivation |
|-----|--------|---|
| 31. | b | $\$144,000 + \$108,000 + \$24,000 - \$36,000 = \$240,000.$ |
| 32. | c | $\$50,000 + (\$600,000 \times .10) - \$45,000 = \$65,000.$ |
| 33. | c | $\$900,000 + \$390,000 + \$90,000 + \$165,000 - \$210,000 = \$1,335,000.$ |
| 34. | b | $\$180,000 + \$30,000 + (\$2,400,000 \times .10) - (\$2,100,000 \times .09) = \$261,000.$ |
| 35. | d | $\$360,000$ (given). |
| 36. | c | $\$360,000 - \$324,000 = \$36,000.$ |
| 37. | c | $\$48,000 + \$36,000 = \$84,000.$ |
| 38. | b | $\$285,000 - \$300,000 = \$15,000$ debit. |
| 39. | b | $\$630,000 + \$240,000 - \$810,000 - \$15,000 = \$45,000$ gain. |
| 40. | d | $\$15,000 + \$225,000 - \$225,000 = \$15,000.$ |
| 41. | b | $\$912,000 + \$210,000 - \$942,000 - \$15,000 = \$165,000$ gain. |
| 42. | a | $\$1,720,000 - \$1,692,000 - \$28,000 = \$0.$ |
| 43. | d | $\$1,720,000 \times 10\% = \$172,000.$ |
| 44. | d | funding minus pension expense = accrued pension asset/liab. $\$410,000 - X = \$1,220,000 - \$1,320,000; X = \$510,000$ |
| 45. | c | $\$3,500,000 - \$2,500,000 - \$100,000 = \$900,000$ |
| 46. | d | $50 + 40 + 30 + 20 + 10 = 150.$ $\$300,000 \div 150 = \$2,000/\text{service yr.}$ $\$2,000 \times 50 = \$100,000.$ |
| 47. | b | $\$1,200,000 + \$400,000 - \$540,000 = \$1,060,000.$ |
| 48. | d | $\$1,400,000 + \$80,000 - \$75,000 + (\$1,400,000 \times .10) = \$1,545,000.$ |
| 49. | c | $\$1,250,000 + \$88,000 + \$90,000 - \$75,000 = \$1,353,000.$ |
| 50. | c | $\$2,490,000 \times .11 = \$273,900.$ |

No. Answer Derivation

51. b $(\$2,870,000 - \$2,600,000) - (\$315,000 - \$235,000) = \$190,000.$
52. a $\$190,000 - (\$2,600,000 \times .07) = \$8,000.$
53. b $\$2,600,000 \times .10 = \$260,000.$
54. b $(\$360,000 - \$260,000) \div 16 = \$6,250.$
55. b $\$102,000 + (\$900,000 \times 9\%) = \$183,000.$
56. c $\$340,000 + (\$2,000,000 \times 8\%) + (\$2,000,000/25) = \$580,000.$
57. b $\$126,000 + (\$900,000 \times 10\%) - \$24,000 = \$192,000.$

DERIVATIONS—CPA Adapted

No. Answer Derivation

58. d $\$96,000 + \$24,000 + (\$96,000 \times .10) - \$20,000 = \$109,600.$
59. a $\$6,200,000 - \$5,000,000 = \$1,200,000.$
60. a $(\$250,000 + \$100,000) - (\$250,000 + \$40,000) = \$60,000.$
61. c $\$240,000 + \$24,000 - \$82,500 + \$60,000 = \$241,500.$
62. a $\$360,000 - \$300,000 + \$45,000 = \$105,000.$
63. c $\$1,335,000 - \$1,200,000 = \$135,000.$
64. b Conceptual.
65. a Conceptual.
66. b Conceptual.
67. d Conceptual.

EXERCISES

Ex. 19-68—Pension accounting terminology.

Briefly explain the following terms:

- (a) Service cost
- (b) Interest cost
- (c) Past service costs
- (d) Vested benefits

Solution 19-68

- (a) The service cost component of pension expense is the cost of the benefits to be provided in the future in exchange for the services provided in the current period.
- (b) The interest cost component of pension expense is the interest for the period on the accrued benefit obligation outstanding during the period. To simplify the calculation, the amount of interest is calculated by applying a single rate to the beginning balance of the obligation.
- (c) When a defined benefit plan is initiated or amended, credit that is given to employees for service provided before the date of initiation or amendment results in past service costs. The amount of the past service costs is calculated by an actuary.
- (d) Vested benefits are those the employee is entitled to receive even if s/he provides no additional services under the plan, e.g. if his/her employment is terminated.

Ex. 19-69—Pension assets.

Discuss the following ideas related to pension assets:

- (a) Actual return on plan assets.
- (b) Expected return on plan assets.
- (c) Unexpected gains and losses on plan assets.

Solution 19-69

- (a) The actual return earned on plan assets is the income generated on the assets being held by the trustee, less the cost of administering the fund. This can vary considerably from year to year.
- (b) The expected return on plan assets is the long-term rate of return calculated by the actuary multiplied by the fair value of the assets at the beginning of the period. Market-related asset value may be used under PE GAAP.
- (c) An unexpected asset gain occurs when the actual return on plan assets is greater than the expected return on plan assets and an unexpected loss occurs when the actual return is less than the expected return.

Ex. 19-70—Approaches to accounting for pension expense.

Discuss the difference between the immediate recognition approach and the deferral and amortization approach when accounting for pension benefit expense.

Solution 19-70

Under the immediate recognition approach, the pension benefit expense comprises all items affecting the funded status during the period, except the employer contributions. Thus, the expense will include current service cost, interest cost, actual return on assets, past service costs, and any actuarial gains or losses. This may cause the annual pension expense to fluctuate significantly. However, an advantage of this approach is that the actual funded status is disclosed on the balance sheet via the accrued pension asset/liability.

Under the deferral and amortization approach, the recognition of past service costs and actuarial gains/losses can be deferred and amortized over current and future periods. This tends to smooth out the pension expense, but misstates the funded status on the balance sheet, as the unrecognized past service costs and actuarial gains/losses are “off balance sheet.” However, all such amounts must be fully disclosed in the notes.

PE GAAP permits organizations to use either approach. IFRS, on the other hand, applies a form of the deferral and amortization approach only. There are some choices permitted with the IFRS approach.

Ex. 19-71—Measuring and recording pension expense.

Pumpkin Ltd received the following information from its pension plan trustee concerning their defined benefit pension plan for the year ended December 31, 2012:

| | <u>January 1, 2012</u> | <u>December 31, 2012</u> |
|----------------------------|------------------------|--------------------------|
| Accrued benefit obligation | \$3,500,000 | \$3,990,000 |
| Fair value of plan assets | 1,750,000 | 2,240,000 |

For 2012, the service cost is \$210,000 and the amortization of past service costs is \$240,000. During 2012, Pumpkin contributed \$595,000 to the plan. Both the actual and expected return on plan assets were 8%. Pumpkin uses the deferral and amortization approach.

Instructions

- (a) Calculate the pension expense to be reported in 2012.
- (b) Prepare the journal entries to record the pension expense and the employer’s contribution for 2012.

Solution 19-71

| | |
|---|------------------|
| (a) Service cost | \$210,000 |
| Interest on ABO ($\$3,500,000 \times 8\%$) | 280,000 |
| Expected return on plan assets ($\$1,750,000 \times 8\%$) | (140,000) |
| Amortization of past service costs | <u>240,000</u> |
| | <u>\$590,000</u> |
| (b) Pension Expense | 590,000 |
| Accrued Pension Asset/Liability | 590,000 |
| Accrued Pension Asset/Liability..... | 595,000 |
| Cash | 595,000 |

Ex. 19-72—Calculating accrued pension asset/liability.

Satsuma Corp. provided the following balances regarding their defined benefit pension plan at December 31, 2012:

| | |
|---------------------------------|-------------|
| Accrued benefit obligation | \$4,500,000 |
| Fair value of plan assets | 4,340,000 |
| Unrecognized past service costs | 120,000 |

Satsuma uses the deferral and amortization approach.

Instructions

- Calculate the accrued pension asset or liability.
- Assume the same facts as in (a) but that Satsuma had an actuarial gain of \$20,000 in 2012. Recalculate the accrued pension asset or liability.

Solution 19-72

| | |
|-------------------------------------|------------------|
| (a) Accrued benefit obligation | \$4,500,000 |
| Fair value of plan assets | <u>4,340,000</u> |
| | 160,000 |
| Less unrecognized past service cost | <u>(120,000)</u> |
| Accrued pension liability | <u>\$ 40,000</u> |
| (b) Accrued benefit obligation | \$4,500,000 |
| Fair value of plan assets | <u>4,340,000</u> |
| | 160,000 |
| Less unrecognized past service cost | (120,000) |
| Plus actuarial gain | <u>20,000</u> |
| Accrued pension liability | <u>\$ 60,000</u> |

Ex. 19-73—Pension plan calculations and journal entries.

On January 1, 2012, Prune Ltd reported the following balances relating to their defined benefit pension plan:

| | |
|----------------------------|-------------|
| Accrued benefit obligation | \$3,200,000 |
| Fair value of plan assets | 3,200,000 |

Other data related to the pension plan for 2012 are:

| | |
|---------------------------------|---------|
| Service costs | 140,000 |
| Unrecognized past service costs | -0- |
| Contributions to the plan | 204,000 |
| Benefits paid | 200,000 |
| Actual return on plan assets | 192,000 |
| Interest on the liability | 9% |
| Expected rate of return | 6% |

Instructions

- Calculate the accrued benefit obligation at December 31, 2012. There are no actuarial gains or losses or past service costs.
- Calculate the fair value of plan assets at December 31, 2012.
- Calculate pension expense for 2012.
- Prepare the journal entries to record the pension expense and the contributions for 2012.

Solution 19-73

| | |
|---------------------------------------|--------------------|
| (a) Accrued benefit obligation, Jan 1 | \$3,200,000 |
| Service cost | 140,000 |
| Interest cost (9% × \$3,200,000) | 288,000 |
| Benefits paid | <u>(200,000)</u> |
| Accrued benefit obligation, Dec 31 | <u>\$3,428,000</u> |

| | |
|--------------------------------------|--------------------|
| (b) Fair value of plan assets, Jan 1 | \$3,200,000 |
| Actual return | 192,000 |
| Contributions | 204,000 |
| Benefits paid | <u>(200,000)</u> |
| Fair value of plan assets, Dec 31 | <u>\$3,396,000</u> |

| | |
|----------------------------------|------------------|
| (c) Service cost | \$140,000 |
| Interest cost (9% × \$3,200,000) | 288,000 |
| Actual return on plan assets | <u>(192,000)</u> |
| Pension expense | <u>\$236,000</u> |

| | | |
|---------------------------------------|---------|---------|
| (d) Pension Expense | 236,000 | |
| Accrued Pension Asset/Liability | | 236,000 |
| | | |
| Accrued Pension Asset/Liability | 204,000 | |
| Cash | | 204,000 |

Ex. 19-74—Corridor amortization.

Explain corridor amortization.

Solution 19-74

The profession has adopted the corridor approach for amortizing pension plan gains and losses when they get too large. The unrecognized net gain or loss gets too large when it exceeds the arbitrarily selected criterion of 10% of the larger of the beginning balances of the accrued benefit obligation or the fair value of the plan assets. Any systematic method of amortizing the excess unrecognized gain or loss may be used but it cannot be less than the amount calculated using the straight-line method over the average remaining service life of all active employees.

Ex. 19-75—Pension plan calculations and journal entries.

Information about the defined benefit pension plan of Olive Corp. is as follows:

| | <u>Dec 31/11</u> | <u>Dec 31/12</u> |
|--------------------------------|------------------|------------------|
| Accrued benefit obligation | \$6,400,000 | \$6,690,000 |
| Unrecognized past service cost | 245,000 | 185,000 |
| Fair value of plan assets | 6,530,000 | 6,640,000 |
| Pension expense | 1,330,000 | 1,870,000 |
| Contribution for year | 1,310,000 | 1,800,000 |
| Interest rate (for year) | 9% | 8% |

The accrued pension liability was \$15,000 at January 1, 2011 and \$35,000 at January 1, 2012. Olive uses the deferral and amortization approach.

Instructions

- Calculate the corridor for 2012.
- Calculate the accrued pension cost at December 31, 2012.
- Prepare the entries for 2012 to record the pension expense and contribution.

Solution 19-75

- (a) $10\% \times \$6,400,000 = \$640,000$; $10\% \times \$6,530,000 = \$653,000$
The corridor is the larger, \$653,000.

| | |
|---|------------------|
| (b) Accrued pension liability, Jan 1, 2011 | \$ 15,000 |
| Addition for 2011 (\$1,330,000 – \$1,310,000) | 20,000 |
| Addition for 2012 (\$1,870,000 – \$1,800,000) | <u>70,000</u> |
| Accrued pension liability, Dec 31, 2012 | <u>\$105,000</u> |

| | |
|---------------------------------------|-----------|
| (c) Pension Expense..... | 1,870,000 |
| Accrued Pension Asset/Liability | 1,870,000 |
| Accrued Pension Asset/Liability | 1,800,000 |
| Cash | 1,800,000 |

Ex. 19-76—Corridor approach for amortization of actuarial gains and losses.

Pineapple Corp has 200 employees who are expected to receive benefits under the company's defined benefit pension plan. The total number of service-years of these employees is 2,000. The actuary for the company's pension plan calculated the following net gains and losses:

| For the Year Ended December 31 | (Gain) Or Loss |
|-----------------------------------|----------------|
| 2011 | \$330,000 |
| 2012 | (297,000) |
| 2013 | 495,000 |

Prior to 2011 there were no unrecognized actuarial gains or losses. Information about the company's accrued benefit obligation and plan asset values follows:

| | As of January 1 | | |
|----------------------------|-----------------|-------------|-------------|
| | 2011 | 2012 | 2013 |
| Accrued benefit obligation | \$1,050,000 | \$1,170,000 | \$1,470,000 |
| Fair value of plan assets | 840,000 | 1,230,000 | 1,275,000 |

Instructions

Based on the above information, prepare a schedule which reflects the amount of unrecognized net actuarial gain or loss to be amortized as a component of pension expense for the years 2011, 2012, and 2013. Pineapple amortizes such unrecognized net gains or losses using the straight-line method over the expected average remaining service life (EARSL) of participating employees.

Solution 19-76

Corridor Test and Gain/Loss Amortization Schedule

| | Beginning of Year | | Corridor | Cumulative (Gain) Or Loss | Amortization |
|------|-------------------|-------------|-----------|------------------------------|--------------|
| | ABO | Plan Assets | | | |
| 2011 | \$1,050,000 | \$ 840,000 | \$105,000 | \$ -0- | \$ -0- |
| 2012 | 1,170,000 | 1,230,000 | 123,000 | 330,000 | 20,700* |
| 2013 | 1,470,000 | 1,275,000 | 147,000 | 12,300** | -0- |

Average Service Years = 2,000 ÷ 200 = 10 years
 *\$330,000 – \$123,000 = \$207,000 ÷ 10 = \$20,700
 **\$330,000 – \$297,000 – \$20,700 = \$12,300.

Ex. 19-77—Pension reconciliation schedule.

Boysenberry Inc provides the following information about its defined benefit pension plan for the year ended December 31, 2012:

| | |
|--|-----------|
| Service cost for 2012 | \$ 30,000 |
| Unrecognized past service costs | 360,000 |
| Fair value of plan assets | 870,000 |
| Accrued benefit obligation | 1,040,000 |
| Unrecognized actuarial gain | 95,000 |
| Interest on accrued benefit obligation | 75,000 |

Instructions

Prepare a schedule to reconcile the funded status of the pension plan with the amounts that would be reported on Boysenberry Inc's balance sheet at December 31, 2012.

Solution 19-77

Boysenberry Inc.
Pension Reconciliation Schedule
Year Ended December 31, 2012

| | |
|---|------------------|
| Accrued benefit obligation | \$(1,040,000) |
| Fair value of plan assets | <u>870,000</u> |
| Accrued benefit obligation in excess of plan assets | (170,000) |
| Unrecognized past service cost | 360,000 |
| Unrecognized actuarial gain | <u>(95,000)</u> |
| Accrued pension asset/liability | <u>\$ 95,000</u> |

Ex. 19-78—Pension plan calculations.

The following information relates to the defined benefit pension plan for the employees of Strawberry Dale Ltd:

| | <u>Dec 31/11</u> | <u>Dec 31/12</u> |
|---------------------------------|------------------|------------------|
| Accrued benefit obligation | \$2,250,000 | \$3,000,000 |
| Fair value of plan assets | 2,300,000 | 2,640,000 |
| Net actuarial gains | 320,000 | 360,000 |
| Interest rate on the obligation | 8% | 8% |
| Expected rate of return | 7% | 6% |

Strawberry Dale estimates that the expected average remaining service life (EARSL) of the employees is 15 years. In 2012, the corporation contributed \$390,000 to the plan, and the trustee paid \$210,000 in benefits to retirees. Strawberry Dale uses the deferral and amortization approach.

Ex. 19-78 (Continued)

Instructions

For the year ended December 31, 2012,

- (a) Calculate the interest cost.
- (b) Calculate the actual return on plan assets.
- (c) Calculate the unexpected gain or loss (if any).
- (d) Calculate the corridor and the amortization of the net actuarial gain.

Solution 19-78

(a) $\$2,250,000 \times 8\% = \$180,000$

| | |
|---|--------------------|
| (b) Fair value of plan assets Dec 31/12 | \$2,640,000 |
| Fair value of plan assets Dec 31/11 | <u>(2,300,000)</u> |
| | 340,000 |
| Contributions | (390,000) |
| Benefits paid | <u>210,000</u> |
| Actual return on plan assets | <u>\$ 160,000</u> |

| | |
|--|------------------|
| (c) Actual return (see b) | \$ 160,000 |
| Expected return ($\$2,300,000 \times 6\%$) | <u>(138,000)</u> |
| Unexpected gain | <u>\$ 22,000</u> |

- (d) $10\% \times \$2,300,000 = \$230,000$; $10\% \times \$2,250,000 = \$225,000$.
 The corridor is the larger, \$230,000.
 $\$320,000 - \$230,000 = \$90,000$; $\$90,000 \div 15 = \$6,000$ amortization of gain.

Ex. 19-79—Measuring and recording pension expense.

The following information relates to the defined benefit pension plan for the employees of Huckleberry Ltd for 2012. The corporation uses the deferral and amortization approach.

| | |
|---|-----------|
| Service cost | \$260,000 |
| Contributions | 250,000 |
| Interest rate used for ABO | 10% |
| Expected return on plan assets | 9% |
| Amortization of unrecognized past service costs | \$ 50,000 |
| Amortization of unrecognized actuarial gains | 24,000 |
| Accrued benefit obligation Jan 1, 2012 | 240,000 |
| Fair value of plan assets Jan 1, 2012 | 180,000 |

Instructions

- (a) Calculate the pension expense to be reported for 2012.
- (b) Prepare the journal entries to record pension expense and the employer's contributions for 2012.

Solution 19-79

| | | |
|--|------------------|---------|
| (a) Service cost | \$260,000 | |
| Interest on accrued benefit obligation ($\$240,000 \times 10\%$) | 24,000 | |
| Expected return on plan assets ($\$180,000 \times 9\%$) | (16,200) | |
| Amortization of unrecognized past service costs | 50,000 | |
| Amortization of unrecognized actuarial gains | <u>(24,000)</u> | |
| Pension expense—2012 | <u>\$293,800</u> | |
| | | |
| (b) Pension Expense | 293,800 | |
| Accrued Pension Asset/Liability | | 293,800 |
| | | |
| Accrued Pension Asset/Liability | 250,000 | |
| Cash | | 250,000 |

Ex. 19-80—Calculating and recording post-retirement expense.

The following information is related to the Papaya Corp. post-retirement benefits plan for 2012:

| | | |
|---|-----------|--|
| Accrued benefit obligation Jan 1, 2012 | \$480,000 | |
| Service cost | 126,000 | |
| Interest rate on ABO | 10% | |
| Amortization of unrecognized actuarial loss | \$24,600 | |
| Actual return on plan assets | 16,800 | |
| Expected return on plan assets | 21,800 | |
| Contributions | 168,000 | |

Instructions

- (a) Calculate the post-retirement benefit expense for 2012.
- (b) Prepare the journal entries to record post-retirement expense and the employer's contributions for 2012.

Solution 19-80

| | | |
|---|------------------|---------|
| (a) Service cost | \$126,000 | |
| Interest cost ($10\% \times \$480,000$) | 48,000 | |
| Amortization of unrecognized actuarial loss | 24,600 | |
| Expected return on plan assets | <u>(21,800)</u> | |
| Post-retirement expense | <u>\$176,800</u> | |
| | | |
| (b) Post-retirement Benefit Expense | 176,800 | |
| Accrued Post-retirement Asset/Liability | | 176,800 |
| | | |
| Accrued Post-retirement Asset/Liability | 168,000 | |
| Cash | | 168,000 |

PROBLEMS

Pr. 19-81—Measuring and recording pension expense.

Presented below is information related to the pension plan of Swiss Chard Ltd. for the year 2012.

1. The service cost of pension expense is \$300,000.
2. At January 1, 2012, the accrued benefit obligation was \$375,000, and the fair value of the pension plan assets was \$350,000. The expected return on plan assets is 9% and the interest rate on the obligation is 10%.
3. The unrecognized past service costs at the beginning of the year were \$175,000. The company has a workforce of 200 employees; all of whom are expected to receive benefits under the plan. The total number of service-years is 1,000 and the service-years attributable to 2012 is 200. The company has decided to amortize these costs in equal amounts over the expected period to full eligibility of the employee group.
4. At January 1, 2012, there was an unrecognized net actuarial loss of \$112,000. This loss is being amortized on a straight-line basis over the average remaining service-life of the employees.
5. Swiss Chard contributed \$290,000 to the pension fund in 2012.

Instructions

- (a) Calculate the pension expense to be reported on the income statement for 2012.
- (b) Prepare the journal entries to record pension expense and the employer's contributions for 2012.

Solution 19-81

| | |
|---|------------------|
| (a) Service cost | \$300,000 |
| Interest on ABO (10% × \$375,000) | 37,500 |
| Expected return on plan assets (9% × \$350,000) | (31,500) |
| Amortization of past service cost (1) | 35,000 |
| Amortization of actuarial loss (2) | 14,900 |
| Pension expense | <u>\$355,900</u> |

$$(1) \quad \frac{\$175,000}{1,000} = \$175 \quad 200 \times \$175 = \underline{\$35,000}$$

$$(2) \quad \text{Plan assets } \$350,000 \times 10\% = \$35,000; \text{ ABO } \$375,000 \times 10\% = \$37,500$$

| | |
|------------------------------------|-----------------|
| Net actuarial loss Jan 1 | \$112,000 |
| Higher of 10% of ABO & plan assets | <u>(37,500)</u> |
| Amount to be amortized | \$ 74,500 |

$$\frac{1,000}{200} = \frac{\text{Expected Future Years of Service}}{\text{Number of Employees}} = 5 \text{ years} \quad \$74,500/5 = \underline{\$14,900}$$

Solution 19-81 (Continued)

| | | |
|---------------------------------------|---------|---------|
| (b) Pension Expense..... | 355,900 | |
| Accrued Pension Asset/Liability | | 355,900 |
| | | |
| Accrued Pension Asset/Liability | 290,000 | |
| Cash | | 290,000 |

Pr. 19-82—Preparation of a pension worksheet and pension entries.

The accountant for Camberwell Corp has developed the following information regarding the company's defined benefit pension plan for 2012:

| | |
|---|------------|
| Service cost | \$ 600,000 |
| Actual return on plan assets | 315,000 |
| Contributions | 1,080,000 |
| Amortization of unrecognized past service costs | 126,000 |
| Benefits paid to retirees | 72,000 |
| Interest rate on ABO | 10% |
| Expected rate of return on plan assets | 8% |

Instructions

- (a) Using the above information, complete the pension work sheet below for 2012. Indicate credit entries by parentheses, e.g. (72,000).
- (b) Prepare the journal entries to reflect the accounting for the company's pension plan for the year ending December 31, 2012.

Camberwell Corp
Pension Work Sheet—2012

| | General Journal Entries | | | Memo Entries | | | |
|------------------------|------------------------------|------|----------------------------------|----------------------------------|----------------|---|--|
| | Annual Pension Expense | Cash | Accrued Pension Asset/Liab | Accrued Benefit Obligation | Plan Assets | Unrecognized Past Service Cost | Unrecognized Net (Gain) or Loss |
| Bal., Dec. 31, 2011 | | | (450,000) | (4,500,000) | 3,300,000 | 750,000 | |
| Service cost | | | | | | | |
| Interest cost | | | | | | | |
| Expected return | | | | | | | |
| Amortization of PSC | | | | | | | |
| Contributions | | | | | | | |
| Benefits paid | | | | | | | |
| Unrecognized gain/loss | | | | | | | |
| Journal entry for 2012 | | | | | | | |
| Bal., Dec. 31, 2012 | | | | | | | |

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Solution 19-82

Camberwell Corp
Pension Work Sheet—2012

| General Journal Entries | | | | Memo Entries | | | |
|----------------------------|------------------------|--------------------|----------------------------|----------------------------|------------------|--------------------------------|---------------------------------|
| | Annual Pension Expense | Cash | Accrued Pension Asset/Liab | Accrued Benefit Obligation | Plan Assets | Unrecognized Past Service Cost | Unrecognized Net (Gain) or Loss |
| Bal., Dec. 31, 2011 | | | (450,000) | (4,500,000) | 3,300,000 | 750,000 | |
| Service cost | 600,000 | | | (600,000) | | | |
| Interest cost (1) | 450,000 | | | (450,000) | | | |
| Expected return | (264,000) | | | | 264,000 | | |
| Amortization of PSC | 126,000 | | | | | (126,000) | |
| Contributions | | (1,080,000) | | | 1,080,000 | | |
| Benefits paid | | | | 72,000 | (72,000) | | |
| Unrecognized gain/loss (2) | | | | | 51,000 | | (51,000) |
| Journal entry for 2012 | <u>912,000</u> | <u>(1,080,000)</u> | <u>168,000</u> | | | | |
| Bal., Dec. 31, 2012 | | | <u>(282,000)</u> | <u>(5,478,000)</u> | <u>4,623,000</u> | <u>624,000</u> | <u>(51,000)</u> |

- (1) $\$4,500,000 \times 10\% = \$450,000$
 (2) $\$315,000 - (\$3,300,000 \times 8\%) = \$51,000$

| | |
|---------------------------------------|-----------|
| (b) Pension Expense | 912,000 |
| Accrued Pension Asset/Liability | 612,000 |
| Accrued Pension Asset/Liability | 1,080,000 |
| Cash | 1,080,000 |

Pr. 19-83—Amortization of past service costs using EARSL (Expected Average Remaining Service Life).

On January 1, 2011, Fudge Inc amended its defined benefit pension plan, which caused an increase of \$3,600,000 in its accrued benefit obligation. The company has 400 employees who are expected to receive benefits under the plan. The personnel department provided the following information regarding expected employee retirements:

| <u>Number of Employees</u> | <u>Expected Retirements on Dec 31 each year</u> |
|----------------------------|---|
| 40 | 2011 |
| 120 | 2012 |
| 60 | 2012 |
| 160 | 2014 |
| <u>20</u> | 2015 |
| <u>400</u> | |

Fudge plans to use the expected average remaining service life (EARSL) to calculate the amortization of unrecognized past service costs.

Instructions

Prepare a schedule showing the annual amortization of past service costs that Fudge will recognize as a component of pension expense from 2011 through 2015.

Solution 19-83

| <u>Year</u> | Calculation of Service Years | | | | | <u>Total</u> |
|-------------|------------------------------|------------|------------|------------|------------|--------------|
| | | | | | | |
| 2011 | 40 | 120 | 60 | 160 | 20 | 400 |
| 2012 | | 120 | 60 | 160 | 20 | 360 |
| 2013 | | | 60 | 160 | 20 | 240 |
| 2014 | | | | 160 | 20 | 180 |
| 2015 | | | | | 20 | 20 |
| | <u>40</u> | <u>240</u> | <u>180</u> | <u>640</u> | <u>100</u> | <u>1,200</u> |

Cost Per Service Year: $\$3,600,000 \div 1,200 = \$3,000$.

Fudge Inc Calculation of Annual Past Service Costs Amortization

| <u>Year</u> | <u>Total Service-Years</u> | <u>Cost Per Service-Year</u> | <u>Annual Amortization</u> |
|-------------|--------------------------------|----------------------------------|--------------------------------|
| 2011 | 400 | \$3,000 | \$1,200,000 |
| 2012 | 360 | 3,000 | 1,080,000 |
| 2013 | 240 | 3,000 | 720,000 |
| 2014 | 180 | 3,000 | 540,000 |
| 2015 | <u>20</u> | 3,000 | <u>60,000</u> |
| | <u>1,200</u> | | <u>\$3,600,000</u> |

Pr. 19-84—Measuring, recording, and reporting pension expense and liability.

On January 1, 2012, Welles Ltd. started a defined benefit pension plan that grants benefits to its 100 employees for services rendered in the years prior to the adoption of the plan. The total expected service-years of the 100 employees who are entitled to receive benefits under the plan is 1,200. An actuary has calculated that the present value of the accrued benefit obligation on January 1, 2012 was \$2,520,000. Welles will use the deferral and amortization approach. On December 31, 2012 the following information was provided concerning the pension plan's operations for the first year.

| | |
|--|------------|
| Employer's contribution at end of year | \$ 800,000 |
| Service cost | 300,000 |
| Accrued benefit obligation | 3,000,000 |
| Fair value of plan assets | 800,000 |
| Expected return on plan assets | 9% |
| Interest rate for ABO | 8% |

Instructions

- (a) What is the past service cost at January 1, 2012?
- (b) Calculate the pension expense recognized in 2012. Assume the past service cost will be amortized over the expected average remaining service life of the employees.
- (c) Prepare the journal entry to reflect the accounting for the company's pension plan for 2012.
- (d) Show the amounts related to the pension plan that would be reported on the income statement and the balance sheet for 2012.

Solution 19-84

(a) \$2,520,000.

| | |
|---|------------------|
| (b) Service cost | \$300,000 |
| Interest on accrued benefit obligation (\$2,520,000 × 8%) | 201,600 |
| Amortization of past service cost* | <u>210,000</u> |
| Pension expense—2012 | <u>\$711,600</u> |

$\frac{* 1,200}{100} = 12 \text{ years average remaining service life; } \frac{\$2,520,000}{12} = \$210,000$

| | | |
|--------------------------------------|---------|---------|
| (c) Pension Expense..... | 711,600 | |
| Accrued Pension Asset/Liability..... | | 711,600 |
| Accrued Pension Asset/Liability..... | 800,000 | |
| Cash..... | | 800,000 |

| | |
|-----------------------------|------------------|
| (d) <u>Income statement</u> | |
| Pension Expense | <u>\$711,600</u> |

| | |
|---|------------------|
| <u>Balance sheet</u> | |
| Accrued Pension Asset (\$800,000 - \$711,600) | <u>\$ 88,400</u> |

Pr. 19-85—Calculating pension expense and pension plan funded status.

Fernando's Furniture Inc. sponsors a defined benefit pension plan for its employees. As of January 1, 2012, the following balances are reported:

| | |
|---------------------------------|------------|
| Accrued benefit obligation | \$ 240,000 |
| Plan assets (at fair value) | 180,000 |
| Unrecognized past service costs | 80,000 |
| Unrecognized actuarial gain | 15,000 |
| Accrued pension asset/liability | 5,000 Dr |

Additional information is as follows:

- For the year ended December 31, 2012, the pension service cost was \$80,000.
- The actuary's expected rate of return on plan assets for 2012 was 9%. The actual return was \$25,000.
- The unrecognized past service costs are to be amortized straight-line over ten years.
- The expected average remaining service life (EARSL) is 12.5 years.
- The interest rate used for the ABO is 10%.
- The company paid \$70,000 to the pension trustee on December 31, 2012.
- On December 31, 2012, the trustee paid \$120,000 in pension benefits to retired employees.

Instructions

- Calculate the amount of pension expense for 2012, and prepare the required adjusting journal entries.
- Calculate the funded status of the plan on December 31, 2012 and prepare a reconciliation of the plan's funded status to the liability reported on the December 31, 2012 balance sheet.

Solution 19-85

(a) Pension expense for 2012

| | |
|---|------------------|
| Service cost | \$ 80,000 |
| Interest on ABO (\$240,000 x 10%) | 24,000 |
| Expected return on plan assets (\$180,000 x 9%) | (16,200) |
| Amortization of unrecognized prior service cost (\$80,000/10) | 8,000 |
| Amortization of unrecognized actuarial gain** | <u>0</u> |
| Pension expense | <u>\$ 95,800</u> |

** The gain of 15,000 is not amortized, as it is less than the greater of:

- 10% of the ABO (\$240,000 x 10% = \$24,000) and
- 10% of plan assets (\$180,000 x 10% = \$18,000)

Solution 19-85 (Continued)

| | | |
|--------------------------------------|--------|--------|
| Pension expense | 95,800 | |
| Accrued pension asset/liability..... | | 95,800 |
| Accrued pension asset/liability..... | 70,000 | |
| Cash | | 70,000 |

(b) Funded Status at December 31, 2012:

| | |
|---------------------------------|------------------|
| Accrued Benefit Obligation (1) | \$ (224,000) |
| Plan assets (2) | <u>155,000</u> |
| Underfunded | (69,000) |
| Unrecognized past service costs | 72,000 |
| Unrecognized actuarial gain (3) | <u>(23,800)</u> |
| Accrued Pension Liability (4) | \$ <u>20,800</u> |

(1) Accrued Benefit Obligation

| | |
|----------------------|------------------|
| Beginning balance | \$240,000 |
| Service costs | 80,000 |
| Interest costs | 24,000 |
| Payments to retirees | <u>(120,000)</u> |
| Ending balance | <u>\$224,000</u> |

(2) Plan assets

| | |
|----------------------|------------------|
| Beginning balance | \$180,000 |
| Actual return | 25,000 |
| Contributions | 70,000 |
| Payments to retirees | <u>(120,000)</u> |
| Ending balance | <u>\$155,000</u> |

(3) Unrecognized actuarial gain

| | |
|-------------------|------------------|
| Beginning balance | \$ 15,000 |
| Actual return | 25,000 |
| Expected return | <u>(16,200)</u> |
| Ending balance | \$ <u>23,800</u> |

(4) Accrued Pension Liability

| | |
|-------------------------|---------------------|
| Beginning balance | \$ 5,000 Dr |
| Contributions (funding) | 70,000 Dr |
| Pension expense | <u>95,800 Cr</u> |
| Ending balance | \$ <u>20,800 Cr</u> |

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CHAPTER 20

LEASES

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|------|---|
| b | 1. | Essential element of a lease agreement. |
| c | 2. | Identification of executory costs. |
| d | 3. | Advantages of leasing. |
| b | 4. | Current standards in lease accounting. |
| c | 5. | ASPE capitalization criteria. |
| d | 6. | Components of minimum lease payments. |
| d | 7. | Interest/discount rate used by lessee. |
| c | 8. | Identify incorrect statement. |
| c | 9. | Lessee accounting for a capital (finance) lease. |
| a | 10. | Depreciation of a leased asset by lessee. |
| b | 11. | Effect on accounting of capital lease vs. operating lease. |
| c | 12. | Objective of accounting for direct financing leases by lessor. |
| d | 13. | Components of gross investment in lease. |
| a | 14. | Recognition of unearned lease income. |
| c | 15. | Accounting for a sales-type lease (manufacturer or dealer lease). |
| d | 16. | Accounting for initial direct costs. |
| c | 17. | Disclosing obligations under capital leases. |
| d | 18. | Contract-based approach. |
| c | *19. | Gain/loss recognition in a sale-leaseback. |
| a | *20. | Classification of lease of land. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|---|
| b | 21. | Calculate operating lease expense. |
| c | 22. | Calculate operating lease income/expense. |
| d | 23. | Calculate operating lease expense with inducement. |
| c | 24. | Calculate interest expense and depreciation expense for lessee. |
| c | 25. | Calculate minimum annual lease payment. |
| d | 26. | Calculate total annual lease payment. |
| a | 27. | Identification of lease type for lessor. |
| c | 28. | Identification of lease type for lessee. |
| c | 29. | Calculate depreciation expense for lessee. |
| b | 30. | Calculate gross profit and interest income for lessor. |
| a | 31. | Calculate depreciation and interest expense for lessee. |
| c | 32. | Calculate gross profit and interest income for lessor. |
| a | 33. | Calculate income before taxes from operating lease. |
| d | 34. | Calculate operating lease expense. |
| b | 35. | Identification of lease type for lessee. |
| a | 36. | Identification of lease type for lessor. |

MULTIPLE CHOICE—Computational (Continued)

| Answer | No. | Description |
|---------------|------------|---|
| d | 37. | Calculate lease payments receivable. |
| Answer | No. | Description |
| b | 38. | Expense recorded by lessee/operating lease. |
| d | 39. | Revenues and expenses recorded by lessor/operating lease. |
| c | 40. | Calculate reduction of lease obligation for lessee. |
| b | *41. | Rent expense with sale-leaseback. |
| b | *42. | Determine interest rate implicit in lease payments. |
| a | *43. | Lease-related expenses recognized by lessee. |
| d | *44. | Determine long-term lease obligation for lessee. |
| b | *45. | Lease-related income in sale-leaseback. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|------|---|
| a | 46. | Calculate the lease liability of a lessee. |
| d | 47. | Calculate the lease liability of a lessee. |
| d | 48. | Calculate interest expense for lessee. |
| a | 49. | Calculate depreciation expense for lessee. |
| a | 50. | Calculate income realized by lessor. |
| c | 51. | Identification of lease type for lessee. |
| a | 52. | Determine reduction of lease obligation for lessee. |
| d | *53. | Reporting gain on a sale-leaseback. |
| b | *54. | Accounting for deferred profit in a sale-leaseback. |

EXERCISES

| Item | Description |
|---------|---|
| E20-55 | Types of lessors. |
| E20-56 | Accounting for a capital lease by the lessee. |
| E20-57 | Lease criteria under IFRS. |
| E20-58 | Lease criteria for classification by lessor under ASPE. |
| E20-59 | Accounting for a direct financing lease by lessor. |
| E20-60 | Classification approach vs. contract-based approach. |
| E20-61 | Capital lease amortization and journal entries. |
| E20-62 | Operating lease calculations. |
| E20-63 | Lessor accounting—sales-type lease. |
| *E20-64 | Lessee and lessor accounting (sale-leaseback). |
| *E20-65 | Lessee and lessor accounting (sale-leaseback). |

PROBLEMS

| Item | Description |
|-------------|---|
| P20-66 | Lessee accounting—capital lease. |
| P20-67 | Lessee accounting—capital lease. |
| P20-68 | Lessor accounting—lease with IFRS criteria. |
| *P20-69 | Sale and Leaseback. |

*This topic is dealt with in an Appendix to the chapter.

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MULTIPLE CHOICE—CONCEPTUAL

1. An essential element in a lease agreement is that the
 - a. lessee transfers less than the total interest in the property.
 - b. lessor transfers less than the total interest in the property.
 - c. lease must contain a bargain purchase option.
 - d. rental (lease) payments must be the same for the duration of the lease.

2. Executory costs include
 - a. maintenance, interest and property taxes.
 - b. interest, property taxes and depreciation.
 - c. insurance, maintenance and property taxes.
 - d. maintenance, insurance and income taxes.

3. Which of the following is *not* a possible advantage of leasing?
 - a. Protection against obsolescence.
 - b. Cheaper financing.
 - c. 100% financing at fixed rates.
 - d. No tax advantages for the lessor.

4. Which of the following best describes *current* standards in accounting for leases?
 - a. Leases are not capitalized.
 - b. Leases similar to instalment purchases are capitalized.
 - c. Only long-term leases are capitalized.
 - d. All leases are capitalized.

5. Which of the following is a correct statement regarding one of the ASPE capitalization criteria?
 - a. The lease transfers ownership of the property to the lessor.
 - b. The lease must contain a bargain purchase option.
 - c. The lease term is 75% or more of the leased property's estimated economic life.
 - d. The fair value of the minimum lease payments is equal to 90% or more of the present value of the leased asset.

6. For a lessee, the minimum lease payments may include
 - a. the minimum rental payments and a guaranteed residual value only.
 - b. the minimum rental payments and a bargain purchase option only.
 - c. a bargain purchase option and a guaranteed residual value.
 - d. the minimum rental payments, a bargain purchase option, and a guaranteed or unguaranteed residual value.

7. In calculating the present value of the minimum lease payments, IFRS requires the lessee should
- use its incremental borrowing rate in all cases.
 - use either its incremental borrowing rate or the interest rate implicit in the lease, whichever is higher.
 - use either its incremental borrowing rate or the interest rate implicit in the lease, whichever is lower.
 - use the interest rate implicit in the lease whenever this is reasonably determinable, otherwise use the lessee's incremental borrowing rate.
8. Regarding a basic capital (finance) lease for a lessee, which of the following statements is *incorrect*?
- The lessee records the leased asset at the lower of the minimum lease payments and the fair value of the asset at the lease's inception.
 - The lessee accounts for the lease as if an asset is purchased and a long-term obligation is entered into.
 - The lessor uses the lease as a source of funding.
 - The lessee uses the lease as a source of funding.
9. When a lessee is accounting for a capital (finance) lease
- a guaranteed residual value is excluded from the "minimum lease payments."
 - an unguaranteed residual value is excluded from the "minimum lease payments."
 - a guaranteed residual value is basically an additional lease payment due at the end of the lease.
 - the present value of any guaranteed residual is deducted from the leased asset cost in determining the depreciable amount.
10. In calculating depreciation of a leased asset, the lessee should subtract a(n)
- guaranteed residual value and depreciate over the term of the lease.
 - unguaranteed residual value and depreciate over the term of the lease.
 - guaranteed residual value and depreciate over the economic life of the asset.
 - unguaranteed residual value and depreciate over the economic life of the asset.
11. In the earlier years of a lease, from the lessee's perspective, accounting for a leased asset as
- a capital lease will enable the lessee to report higher income in the earlier years, compared to accounting for it as an operating lease.
 - a capital lease will cause debt to increase, compared to accounting for it as an operating lease.
 - an operating lease will cause income to decrease in the earlier years, compared to accounting for it as a capital lease.
 - an operating lease will cause debt to increase, compared to accounting for it as a capital lease.

12. For companies engaged in direct financing leases (called “other financing leases” under IFRS)
 - a. they are generally manufacturers or retail stores.
 - b. their profits are derived from leasing their inventory at a profit.
 - c. their objective is to earn interest income on the financing arrangement with the lessee.
 - d. such leases are frequently operating leases.

13. For a lessor, which of the following would *not* be included in the Gross Investment in Lease (Lease Payments Receivable)?
 - a. Guaranteed residual value.
 - b. Unguaranteed residual value.
 - c. Bargain purchase option.
 - d. Executory costs.

14. In a lease that is appropriately recorded as a direct financing lease (other financing lease) by the lessor, the unearned interest or finance income is
 - a. amortized and taken into income over the lease term using the effective interest method.
 - b. amortized and taken into income over the lease term using the straight-line method.
 - c. taken into income at the inception of the lease.
 - d. taken into income at the end of the lease.

15. For a sales-type lease (called a manufacturer or dealer lease in IFRS),
 - a. the sales price includes the present value of the unguaranteed residual value.
 - b. the present value of the guaranteed residual value is deducted to determine the cost of goods sold.
 - c. the gross profit will be the same whether the residual value is guaranteed or unguaranteed.
 - d. cost of goods sold is not recognized.

16. Initial direct costs are
 - a. costs incurred by a lessee that are directly associated with negotiating and arranging a lease.
 - b. expensed in the year of incurrence by the lessor in a financing-type lease.
 - c. spread over the term of a sales-type lease by the lessee.
 - d. deferred and allocated over the term of an operating lease in proportion to the amount of rental (lease) income that is recognized.

17. The obligations under capital leases should be disclosed as
 - a. all current liabilities.
 - b. all noncurrent liabilities.
 - c. the current portion in current liabilities and the remainder in noncurrent liabilities.
 - d. deferred credits.

18. Which statement is correct regarding the contract-based approach advocated by the IASB and FASB?
- the lessee recognizes a lease as the leased property itself when there is a transfer of the risk and benefits of ownership.
 - it includes contracts that actually transfer control of the underlying assets itself or almost all of the risks and benefits of ownership.
 - it will apply to all types of assets, including property, plant and equipment, and intangible assets.
 - the asset taken on by the lessee is viewed as the contractual right to the use the asset, not the transfer of the asset itself.
- *19. If a corporation adhering to IFRS sells machinery and then leases it back (sale-leaseback) as a finance lease, any gain on the sale should be
- recognized in the year of "sale."
 - recorded as other comprehensive income.
 - deferred and recognized as income over the term of the lease.
 - deferred and recognized as income at the end of the lease.
- *20. If land is the sole property leased, and title does not transfer at the end of the lease, it should be accounted for as a(n)
- operating lease.
 - capital lease.
 - sales-type lease.
 - direct-financing lease.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | b | 4. | b | 7. | d | 10. | a | 13. | d | 16. | d | *19. | c |
| 2. | c | 5. | c | 8. | c | 11. | b | 14. | a | 17. | c | *20. | a |
| 3. | d | 6. | d | 9. | c | 12. | c | 15. | c | 18. | d | | |

MULTIPLE CHOICE—COMPUTATIONAL

21. On December 1, 2012, Rambo Corporation leased office space for 10 years at a monthly rental of \$50,000. On that date Rambo paid the landlord the following amounts:

| | |
|---------------------------------------|------------------|
| Rent deposit | \$50,000 |
| First month's rent | 50,000 |
| Last month's rent | 50,000 |
| Installation of new walls and offices | <u>270,000</u> |
| | <u>\$420,000</u> |

The entire \$420,000 payment was debited to Prepaid Rent in 2012. What amount should Rambo recognize as rent expense for the year ended December 31, 2012?

- a. \$ 50,000.
 b. \$ 52,250.
 c. \$102,250.
 d. \$275,000.
22. On July 1, 2011, Heckle Corp leased heavy equipment to Jeckle Inc for one year, at \$60,000 a month. Jeckle returned the equipment on June 30, 2012, and the next day, Heckle then leased this equipment to Meckle Ltd for three years, at \$75,000 a month. The original cost of the equipment was \$3,200,000. The equipment, which has been continually on lease since July 1, 2009, is being depreciated on a straight-line basis over ten years with no residual value.

Assuming that both the lease to Jeckle and the lease to Meckle are appropriately recorded as operating leases for accounting purposes, what is the amount of net income (expense) before income taxes that each company would record as a result of the above facts for the year ended December 31, 2012?

| <u>Heckle</u> | <u>Jeckle</u> | <u>Meckle</u> |
|---------------|---------------|---------------|
| a. \$810,000 | \$(360,000) | \$(450,000) |
| b. \$450,000 | \$(450,000) | \$(360,000) |
| c. \$490,000 | \$(360,000) | \$(450,000) |
| d. \$490,000 | \$(360,000) | \$(900,000) |

23. Laurel Ltd leased an office building to Hardy Inc. for a three year, non-renewable term. This was properly classified as an operating lease by both parties. The monthly rental is set at \$6,000 per month. However, as an added inducement, Laurel agreed to grant Hardy a four-month rent-free period at the beginning of the lease, and a further two-month rent-free period at the end of the lease. How much rent expense should Hardy record each month during the three year period?
- a. \$6,000.
 b. \$5,625.
 c. \$5,333.
 d. \$5,000.

24. On January 1, 2012, Adams Corp signed a ten-year non-cancellable lease for machinery. The terms of the lease called for Adams to make annual payments of \$100,000 at the end of each year for ten years with title to pass to Adams at the end of the lease period. Adams accordingly accounted for this lease transaction as a capital (finance) lease. The machinery has an estimated useful life of 15 years and no residual value. Adams uses straight-line depreciation for all of its property, plant and equipment. The lease payments were determined to have a present value of \$671,008 at an effective interest rate of 8%. It was also determined that the fair value of the machinery on January 1, 2012 was \$674,000. With respect to this lease, for the year ending December 31, 2012, Adams should report (rounded to the nearest dollar)
- lease expense of \$100,000, and depreciation expense of \$44,933.
 - interest expense of \$53,681 and depreciation expense of \$44,933.
 - interest expense of \$53,681 and depreciation expense of \$44,734.
 - interest expense of \$53,920 and depreciation expense of \$67,101.

Use the following information for questions 25 through 29.

On January 1, 2012, Dionne Ltd. signs a 10-year non-cancellable lease agreement to lease a storage building from Seline Inc. Seline is in the business of leasing/selling property. Collectibility of the lease payments is reasonably assured and no additional costs are to be incurred by the lessor (other than executory costs). Both the lessor and the lessee are private corporations adhering to ASPE. The following information pertains to this lease agreement:

- The agreement requires equal payments at the end of each year.
 - At January 1, 2012, the fair value of the building is \$900,000 and Seline's book value is \$750,000.
 - The building has an estimated economic life of 10 years, with no residual value. Dionne uses straight-line depreciation for all its depreciable assets.
 - At the termination of the lease, title to the building will transfer to the lessee.
 - Dionne's incremental borrowing rate is 11%. Seline Inc. set the annual rental to ensure a 10% rate of return. The lessor's implicit rate is known to Dionne.
 - The yearly lease payment includes \$3,000 executory costs related to taxes on the property.
25. Rounded to the nearest dollar, what is the amount of the minimum annual lease payment?
- \$ 56,471.
 - \$143,471.
 - \$146,471.
 - \$149,471.
26. Rounded to the nearest dollar, what is the amount of the total annual lease payment?
- \$56,471.
 - \$143,471.
 - \$146,471.
 - \$149,471.

27. From the *lessor's* viewpoint, what type of lease is this?
- Sales-type lease.
 - Sale-leaseback.
 - Direct financing lease.
 - Operating lease.
28. From the *lessee's* viewpoint, what type of lease is this?
- Sales-type lease.
 - Sale-leaseback.
 - Capital lease.
 - Operating lease.
29. Rounded to the nearest dollar, how much depreciation expense would Dionne record on this asset for calendar 2012?
- \$ 0.
 - \$ 75,000.
 - \$ 90,000.
 - \$146,471.

Use the following information for questions 30 and 31.

On July 1, 2012, Justin Ltd, a dealer in machinery and equipment, leased equipment to Farabi Inc. The lease is for ten years, and at the end of the lease period, title will pass to Farabi. Justin requires ten equal annual payments of \$62,100 on July 1 of each year, and Farabi made the first payment on July 1, 2012. Justin had purchased the equipment for \$390,000 on January 1, 2012, and established a selling price of \$500,000 (which was fair value at July 1, 2012). Assume that the present value at July 1, 2012, of the rent payments over the lease term discounted at 8% (the appropriate interest rate) was \$450,000. The useful life of the equipment is 12 years.

30. For the year ended December 31, 2012, what is the amount of gross profit and interest income that Justin should record regarding this lease?
- \$ 0 and \$22,356.
 - \$ 60,000 and \$22,356.
 - \$110,000 and \$22,356.
 - \$231,000 and \$24,840.
31. For the year ended December 31, 2012, and assuming that Farabi uses straight-line depreciation, how much depreciation and interest expense should Farabi record?
- \$18,750 and \$22,356.
 - \$18,750 and \$24,840.
 - \$22,500 and \$22,356.
 - \$22,500 and \$24,840.

32. On July 1, 2012, Nickel Ltd leases equipment from Dime Corp, under an eight year capital (finance) lease. Equal annual payments of \$100,000 are required, payable on July 1 of each year. The first payment is made on July 1, 2012. The appropriate rate of interest for this lease is 9%, and title will transfer to Nickel at the end of the lease contract. The fair value of the equipment is \$620,000 and the cost in Dime's accounting records is \$550,000. The present value of the lease payments is \$620,637. What is the amount of gross profit and interest income that Dime would record for the year ended December 31, 2012?
- \$0 and \$31,500.
 - \$0 and \$36,000.
 - \$70,000 and \$31,500.
 - \$70,637 and \$31,500.

Use the following information for questions 33 and 34.

On May 1, 2012, Charles Corp leased equipment to Darwin Inc for one year under an operating lease. Instead of leasing it, Darwin could have bought the equipment from Charles for \$1,600,000 cash. At this time, Charles's accounting records showed a book value for the equipment of \$1,400,000. Depreciation on the equipment in 2012 was \$180,000. During 2012, Darwin paid \$45,000 per month rent to Charles for the 8-month period, and Charles incurred maintenance and other related costs under the terms of the lease of \$32,000.

33. The net income before income taxes reported by Charles from this lease for the year ended December 31, 2012, should be
- \$148,000.
 - \$180,000.
 - \$328,000.
 - \$360,000.
34. The pretax expense reported by Darwin from this lease for the year ended December 31, 2012, should be
- \$148,000.
 - \$180,000.
 - \$328,000.
 - \$360,000.

Use the following information for questions 35 through 39.

On January 1, 2012, Muriatta Corp enters into an agreement with Econo Rentals Inc to lease a machine. Both corporations adhere to IFRS. The following data pertain to the agreement:

- (a) The term of the non-cancellable lease is 3 years with no renewal option. Payments of \$271,622 are due on December 31 of each year.
 - (b) The fair value of the machine on January 1, 2012, is \$700,000. The machine has a remaining economic life of 10 years, with no residual value. The machine reverts to the lessor upon the termination of the lease.
 - (c) Muriatta depreciates all its machinery on a straight-line basis.
 - (d) Muriatta's incremental borrowing rate is 10%. Muriatta does not have knowledge of the 8% implicit rate used by Econo.
 - (e) Immediately after signing the lease, Econo discovers that Muriatta is the defendant in a lawsuit that is sufficiently material to make collectibility of future lease payments doubtful.
-
- 35. From Muriatta's viewpoint, what type of lease is this?
 - a. Operating lease.
 - b. Finance lease.
 - c. Manufacturer or dealer lease.
 - d. Other finance lease.

 - 36. From Econo's viewpoint, what type of lease is this?
 - a. Operating lease.
 - b. Finance lease.
 - c. Manufacturer or dealer lease.
 - d. Other finance lease.

 - 37. If Econo records this lease as an other finance lease, what amount would be recorded as Lease Payments Receivable at the inception of the lease?
 - a. \$271,622.
 - b. \$675,483.
 - c. \$700,000.
 - d. \$814,866.

 - 38. If Muriatta accounts for the lease as an operating lease, what expense(s) will be reported in calendar 2012 in relation to this lease?
 - a. Depreciation Expense.
 - b. Rent Expense.
 - c. Interest Expense.
 - d. Depreciation Expense and Interest Expense.

 - 39. If Econo accounts for the lease as an operating lease, what revenue(s) and/or expense(s) will be reported in calendar 2012 in relation to this lease?
 - a. Rental Revenue.
 - b. Interest Income.
 - c. Interest Expense and Depreciation Expense.
 - d. Rental Revenue and Depreciation Expense.

40. Assume the present value of the lease payments is \$700,000 at January 1, 2012. If Muriatta accounts for this lease as a finance lease, what is the amount of the reduction in the lease obligation in calendar 2013? (Rounded to the nearest dollar.)
- \$201,622.
 - \$215,622.
 - \$221,784.
 - \$232,873.
- *41. On June 30, 2012, Sharma Corp sold equipment for \$300,000. The equipment had a book value of \$270,000 and a remaining useful life of 10 years. The same day, Sharma leased back the equipment at \$3,000 per month for 5 years with no option to renew the lease or repurchase the equipment. Sharma's equipment rent expense for this equipment for the year ended December 31, 2012, should be:
- \$36,000.
 - \$18,000.
 - \$15,000.
 - \$12,000.

Use the following information for questions *42 through *45.

Lucille Ltd purchased land and constructed a service station, at a total cost of \$450,000. On January 2, 2011, when construction was completed, Lucille sold the service station and land to a major oil company for \$500,000, and immediately leased it back from the oil company. Fair value of the land at the time of the sale was \$50,000. The lease is a 10-year, non-cancellable lease. Lucille uses straight-line amortization for its other assets. The economic life of the station is 15 years with zero residual value. Title to the property will revert back to Lucille at the end of the lease. A partial amortization schedule for this lease follows:

| | <u>Payments</u> | <u>Interest</u> | <u>Amortization</u> | <u>Balance</u> |
|---------------|-----------------|-----------------|---------------------|----------------|
| Jan. 02, 2011 | | | | \$500,000.00 |
| Dec. 31, 2011 | \$81,372.66 | \$50,000.00 | \$31,372.66 | 468,627.34 |
| Dec. 31, 2012 | 81,372.66 | 46,862.74 | 34,509.92 | 434,117.42 |
| Dec. 31, 2013 | 81,372.66 | 43,411.74 | 37,960.92 | 396,156.50 |

- *42. What is the interest rate implicit in the amortization schedule presented above?
- 12%
 - 10%
 - 8%
 - 6%
- *43. The total lease-related expenses recognized by the lessee during 2012 are (Rounded to the nearest dollar.)
- \$76,863.
 - \$80,000.
 - \$81,373.
 - \$91,863.

- *44. What is the amount of the lessee's obligation to the lessor after the December 31, 2013 payment? (Rounded to the nearest dollar.)
 a. \$500,000.
 b. \$468,627.
 c. \$434,117.
 d. \$396,157.
- *45. The total lease-related income recognized by the lessee during 2012 is
 a. \$ -0-.
 b. \$3,333.
 c. \$5,000.
 d. \$50,000.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 21. | b | 25. | c | 29. | c | 33. | a | 37. | d | *41. | b | *45. | b |
| 22. | c | 26. | d | 30. | b | 34. | d | 38. | b | *42. | b | | |
| 23. | d | 27. | a | 31. | a | 35. | b | 39. | d | *43. | a | | |
| 24. | c | 28. | c | 32. | c | 36. | a | 40. | c | *44. | d | | |

Future Value of Ordinary Annuity of 1

| Period | 5% | 6% | 8% | 10% | 12% |
|--------|----------|----------|----------|----------|----------|
| 1 | 1.00000 | 1.00000 | 1.00000 | 1.00000 | 1.00000 |
| 2 | 2.05000 | 2.06000 | 2.08000 | 2.10000 | 2.12000 |
| 3 | 3.15250 | 3.18360 | 3.24640 | 3.31000 | 3.37440 |
| 4 | 4.31013 | 4.37462 | 4.50611 | 4.64100 | 4.77933 |
| 5 | 5.52563 | 5.63709 | 5.86660 | 6.10510 | 6.35285 |
| 6 | 6.80191 | 6.97532 | 7.33592 | 7.71561 | 8.11519 |
| 7 | 8.14201 | 8.39384 | 8.92280 | 9.48717 | 10.08901 |
| 8 | 9.54911 | 9.89747 | 10.63663 | 11.43589 | 12.29969 |
| 9 | 11.02656 | 11.49132 | 12.48756 | 13.57948 | 14.77566 |
| 10 | 12.57789 | 13.18079 | 14.48656 | 15.93743 | 17.54874 |

Present Value of an Ordinary Annuity of 1

| Period | 5% | 6% | 8% | 10% | 12% |
|--------|---------|---------|---------|---------|---------|
| 1 | .95238 | .94340 | .92593 | .90909 | .89286 |
| 2 | 1.85941 | 1.83339 | 1.78326 | 1.73554 | 1.69005 |
| 3 | 2.72325 | 2.67301 | 2.57710 | 2.48685 | 2.40183 |
| 4 | 3.54595 | 3.46511 | 3.31213 | 3.16986 | 3.03735 |
| 5 | 4.32948 | 4.21236 | 3.99271 | 3.79079 | 3.60478 |
| 6 | 5.07569 | 4.91732 | 4.62288 | 4.35526 | 4.11141 |
| 7 | 5.78637 | 5.58238 | 5.20637 | 4.86842 | 4.56376 |
| 8 | 6.46321 | 6.20979 | 5.74664 | 5.33493 | 4.96764 |
| 9 | 7.10782 | 6.80169 | 6.24689 | 5.75902 | 5.32825 |
| 10 | 7.72173 | 7.36009 | 6.71008 | 6.14457 | 5.65022 |

MULTIPLE CHOICE—CPA Adapted

46. On December 31, 2012, Westway Inc. leased machinery with a fair value of \$420,000 from Northern Rentals. The agreement is a six-year non-cancellable lease requiring annual payments of \$80,000 beginning December 31, 2012. The lease is appropriately accounted for by Westway as a capital (finance) lease. Westway's incremental borrowing rate is 11%; however, they also know that the interest rate implicit in the lease payments is 10%.

The present value of an annuity due for 6 years at 10% is 4.7908.

The present value of an annuity due for 6 years at 11% is 4.6959.

On its December 31, 2012 balance sheet, Westway should report a lease liability of (rounded to the nearest dollar)

- a. \$303,264.
 - b. \$340,000.
 - c. \$375,672.
 - d. \$383,264.
47. On December 31, 2011, Southern Skies Corp leased a machine from Eastern Star Ltd for a five-year period. Annual lease payments are \$315,000 (including \$15,000 annual executory costs) due December 31 each year. The first payment was made on December 31, 2011, and the second payment on December 31, 2012. The appropriate interest rate for this type of lease is 10%. The present value of the minimum lease payments at the inception of the lease (before the first payment) was \$1,251,000. The lease is being accounted for as a capital (finance) lease by Southern Skies. On its December 31, 2012 balance sheet, Southern Skies should report a lease liability of
- a. \$951,000.
 - b. \$936,000.
 - c. \$855,900.
 - d. \$746,100.

Use the following information for questions 48 and 49.

On January 2, 2012, Deere Ltd. signed a ten-year non-cancellable lease for a heavy-duty drill press. The lease required annual payments of \$70,000 starting December 31, 2012, with title passing to Deere at the end of the lease. Deere is accounting for this lease as a capital (finance) lease. The drill press has an estimated useful life of 20 years, with no residual value. Deere uses straight-line depreciation for all its plant assets. The lease payments were determined to have a present value of \$430,000, based on an implicit interest rate of 10%.

48. On their 2012 income statement, how much interest expense should Deere report in connection with this lease?
- a. \$0.
 - b. \$26,250.
 - c. \$35,000.
 - d. \$43,000.

49. On their 2012 income statement, how much depreciation expense should Deere report in connection with this lease?
- \$21,500.
 - \$35,000.
 - \$43,000.
 - \$70,000.
50. Sukwinder Corp manufactures equipment for sale or lease. On December 31, 2012, Sukwinder leased equipment to Pattar Sales Inc for five years, with ownership of the equipment being transferred to Pattar at the end of the lease. Annual lease payments are \$126,000 (including \$6,000 executory costs) and are due on December 31 of each year. The first payment was made on December 31, 2012. Collectibility of the remaining lease payments is reasonably assured, and there are no additional costs (other than executory costs) to be incurred by Sukwinder. The normal sales price of the equipment (fair value) is \$462,000, and Sukwinder's cost is \$360,000. For the year ended December 31, 2012, what amount of income should Sukwinder report from this lease?
- \$102,000.
 - \$132,000.
 - \$138,000.
 - \$198,000.
51. Lease A does not contain a bargain purchase option, but the lease term is equal to 90 percent of the estimated economic life of the leased property. Lease B does not transfer ownership of the property to the lessee by the end of the lease term, but the lease term is equal to 85 percent of the estimated economic life of the leased property. Using ASPE criteria, how should the lessee classify these leases?
- | <u>Lease A</u> | <u>Lease B</u> |
|--------------------|-----------------|
| a. Operating lease | Capital lease |
| b. Operating lease | Operating lease |
| c. Capital lease | Capital lease |
| d. Capital lease | Operating lease |
52. A lessee reported a ten-year capital lease requiring equal annual payments. The reduction of the lease liability in year 2 should equal
- the current liability shown for the lease at the end of year 1.
 - the current liability shown for the lease at the end of year 2.
 - the reduction of the lease obligation in year 1.
 - one-tenth of the original lease liability.
- *53. Macdonald Corp sold its headquarters building at a gain, and simultaneously leased back the building from the buyer. The lease was reported as a capital (finance) lease. At the time of the sale, the gain should be reported as
- operating income.
 - other comprehensive income.
 - a separate component of shareholders' equity.
 - a deferred gain.

- *54. On December 31, 2012, Jerry Ltd sold a machine to Dean Inc and simultaneously leased it back for one year. Pertinent information at this date follows:
- | | |
|--|-----------|
| Sales price | \$360,000 |
| Book value of machine | 330,000 |
| Present value of reasonable lease rentals (\$3,000 for 12 months @ 12%) | 33,765 |
| Machine's estimated remaining useful life | 12 years |

On Jerry's December 31, 2012 balance sheet, the deferred profit from the sale of this machine should be reported at

- \$34,000.
- \$30,000.
- \$ 4,000.
- \$ 0.

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 46. | a | 48. | d | 50. | a | 52. | a | *54 | b |
| 47. | d | 49. | a | 51. | c | *53. | d | | |

DERIVATIONS — COMPUTATIONAL

| No. | Answer | Derivation |
|-----|--------|--|
| 21. | b | $\$50,000 + [(\$270,000/10) \times 1/12] = \$52,250.$ |
| 22. | c | Heckle: $(\$60,000 \times 6) + (\$75,000 \times 6) - (\$3,200,000 \div 10) = \$490,000.$ Jeckle: $(\$60,000) \times 6 = \$(360,000).$ Meckle: $(\$75,000) \times 6 = \$(450,000).$ |
| 23. | d | $(\$6,000 \times 30)/36 = \$5,000$ |
| 24. | c | $\$671,008 \times .08 = \$53,681; \$671,008 \div 15 = \$44,734.$ |
| 25. | c | $\$900,000 \div 6.14457 = \$146,471$ (PV of Ordinary Annuity Table). |
| 26. | d | $\$146,471 + \$3,000 = \$149,471.$ |
| 27. | a | Conceptual, FV exceeds cost (profit element). |
| 28. | c | Conceptual. |
| 29. | c | $\$900,000 \div 10 = \$90,000.$ |
| 30. | b | $\$450,000 - \$390,000 = \$60,000.$ $(\$621,000 - \$62,100) \times .04 = \$22,356.$ |
| 31. | a | $\$450,000/12 \times 50\% = \$18,750.$ $\$621,000 - \$62,100) \times .04 = \$22,356.$ |
| 32. | c | $\$620,000 - \$550,000 = \$70,000.$ $(\$800,000 - \$100,000) \times .045 = \$31,500.$ |
| 33. | a | $(\$45,000 \times 8) - \$32,000 - \$180,000 = \$148,000.$ |
| 34. | d | $\$45,000 \times 8 = \$360,000.$ |
| 35. | b | $\$271,622 \times 2.48685 = \$675,483;$ $\frac{\$675,483}{\$700,000} = 96\% > 90\%.$ |
| 36. | a | Fails to meet all requirements for lessor. |
| 37. | d | $\$271,622 \times 3 = \$814,866.$ |
| 38. | b | Conceptual. |

| No. | Answer | Derivation |
|------|--------|---|
| 39. | d | Conceptual. |
| 40. | c | $\$700,000 - [\$271,622 - (\$700,000 \times .1)] = \$498,378$ $\$271,622 - (\$498,378 \times .1) = \$221,784.$ |
| *41. | b | $\$3,000 \times 6 = \$18,000.$ |
| *42. | b | $\$50,000/\$500,000 = 10\%.$ |
| *43. | a | $[(\$500,000 - \$50,000) \div 15] + \$46,863 = \$76,863.$ |
| *44. | d | \$396,157 (See amortization table.) |
| *45. | b | $(\$500,000 - \$450,000) \div 15 = \$3,333.$ |

DERIVATIONS — CPA ADAPTED

| No. | Answer | Derivation |
|------|--------|---|
| 46. | a | $(\$80,000 \times 4.7908) - \$80,000 = \$303,264.$ |
| 47. | d | $\$1,251,000 - \$300,000 = \$951,000$ (2011). $\$951,000 - [\$300,000 - (\$951,000 \times .10)] = \$746,100$ (2012). |
| 48. | d | $\$430,000 \times .10 = \$43,000.$ |
| 49. | a | $\$430,000 \div 20 = \$21,500.$ |
| 50. | a | $\$462,000 - \$360,000 = \$102,000.$ |
| 51. | c | Conceptual. |
| 52. | a | Conceptual. |
| *53. | d | Conceptual. |
| *54. | b | $\$360,000 - \$330,000 = \$30,000.$ |

EXERCISES

Ex. 20-55—Types of lessors.

Explain the difference between a manufacturer finance company and an independent finance company.

Solution 20-55

A manufacturer finance company, also called a captive leasing company, is a subsidiary whose main business is to provide leasing services for a parent company. Examples are General Motors Acceptance Company of Canada (GMAC), which provides lease financing for General Motors dealers, and Chrysler Finance Service Canada, which provides lease financing for Chrysler dealers.

An independent finance company, on the other hand, acts as financial intermediary by providing lease financing for a wide range of manufacturers, distributors and other dealers. The dealer will sell the customer the product(s) and then outsource the financing to an independent finance company. This is commonly seen in the construction industry.

Ex. 20-56—Accounting for a capital lease by the lessee.

Explain the procedures used by the lessee to account for a capital or finance lease.

Solution 20-56

When the capital lease method is used, the lessee treats the lease transactions as if the asset were being purchased. The asset and obligation are recorded at the lower of (1) the present value of the minimum lease payments (excluding executory costs) or (2) the fair value of the asset at the inception of the lease.

Under ASPE, the present value of the lease payments is calculated using the lessee's incremental borrowing rate, unless the implicit rate used by the lessor is lower and the lessee has knowledge of it.

Under IFRS, the present value is calculated using the interest rate implicit in the lease whenever this is reasonably determinable, otherwise by using the lessee's incremental borrowing rate.

The effective interest method is used to allocate each lease payment between interest expense and a reduction of the lease obligation.

If the lease transfers ownership or contains a bargain purchase option, the asset is depreciated in a manner consistent with the lessee's normal depreciation policy over the economic life of the asset and allowing for residual value. If the lease does not transfer ownership, the leased asset is depreciated over the lease term.

Ex. 20- 57—Lease criteria under International Financial Reporting Standards.

Discuss the criteria cited by IFRS to support classifying a lease as a finance lease.

Solution 20-57

1. There is reasonable assurance that the lessee will obtain ownership of the leased asset by the end of the lease term.
2. The lease term is long enough that the lessee will receive substantially all of the economic benefits expected to be derived from using the leased property over its economic life.
3. The lease allows the lessor to recover substantially all of its investment in the leased property and to earn a return on the investment.
4. The leased asset is so specialized that, without major modification, it would be of use only to the lessee.

Note that the IFRS criteria do not cite any specific numbers, as the ASPE criteria do. They are intended to be principles based and require professional judgment.

Ex. 20- 58—Lease criteria for classification by lessor under ASPE.

What are the criteria that must be satisfied for a lessor under ASPE to classify a lease as a direct financing or sales-type lease?

Solution 20-58

In order for a lessor to classify a lease as a direct financing or a sales-type lease, the lease at the date of inception must satisfy one or more of the following Group I criteria (a, b, and c) and both of the following Group II criteria (a and b):

Group I

- (a) There is reasonable assurance that the lessee will obtain ownership of the property at the end of the lease term.
- (b) The lease term is equal to 75% or more of the estimated economic life of the leased property.
- (c) The present value of the minimum lease payments (excluding executory costs) equals or exceeds 90% of the fair value of the leased property.

Group II

- (a) Collectibility of the payments required from the lessee is reasonably assured.
- (b) Any unreimbursable costs under the lease that are likely to be incurred by the lessor can be reasonably estimated.

Ex. 20-59—Accounting for a direct financing lease by the lessor.

Explain the procedures used to account for a direct financing lease (called an “other finance lease” under IFRS) by the lessor.

Solution 20-59

The lessor records the gross amounts of the minimum lease payments (excluding executory costs) and the unguaranteed residual value (a guaranteed residual value is included in the minimum lease payments) as Lease Payments Receivable and removes the asset from the books. The difference between the gross investment in lease (Lease Payments Receivable) and the asset's cost (or carrying amount), also called the net investment in lease, is recorded as Unearned Interest Income. This is a contra-account to Lease Payments Receivable.

The lessor records payments received as a reduction in the receivable. Unearned income is recognized periodically as interest income, using the effective interest method and the implicit interest rate used to calculate the lease payments.

Ex. 20-60—Classification approach vs. contract-based approach.

Explain the difference between classification approach vs contract-based approach for capitalizing leases. Which does the IASB favour? Why?

Solution 20-60

The classification approach says that transactions should be classified and accounted for according to their economic substance. This would justify capitalizing leases that have similar characteristics to instalment purchases.

On the other hand, the contract-based approach (also called a right-of-use approach) views the lease as conveying a contractual right to use the property (not the physical property itself). This approach would justify capitalizing the fair value of the rights and obligations of just about all leases, even those currently accounted for as operating leases. Exceptions would be leases that actually transfer control of the asset or almost all of the risks and benefits associated with ownership, such as leases where title will transfer at the end of the contract, or where there is a bargain purchase option.

The IASB favours the contract-based approach, since it will capture almost all leases, including those that are currently “off balance-sheet” (operating leases) and make accounting for leases more transparent.

Ex. 20-61—Capital lease amortization and journal entries.

Erica Corp leases machinery on January 1, 2012, and records this as a capital (finance) lease. Seven annual lease payments of \$140,000 are required the end of each year, starting December 31, 2012. The present value of the lease payments at 10% is \$681,600.

Erica uses the effective interest method of amortization for the lease. For all machinery, the company uses straight-line depreciation over eight years, with no residual value.

Instructions (Round to the nearest dollar.)

- Prepare a lease amortization table for 2012 and 2013.
- Prepare the general journal entries relating to this lease for 2012.

Solution 20-61

| (a) | <u>Date</u> | <u>Payments</u> | <u>10% Interest</u> | <u>Reduction Obligation</u> | <u>Lease Obligation</u> |
|-----|-------------|-----------------|---------------------|-----------------------------|-------------------------|
| | Jan 1/12 | | | | \$681,600 |
| | Dec 31/12 | \$140,000 | \$68,160 | \$71,840 | 609,760 |
| | Dec 31/13 | 140,000 | 60,976 | 79,024 | 530,736 |

| | | | | | |
|-----|---|--|--|---------|---------|
| (b) | Jan 1, 2012 | | | | |
| | Equipment under Capital Leases..... | | | 681,600 | |
| | Obligations under Capital Leases | | | | 681,600 |
| | Dec 31, 2012 | | | | |
| | Interest Expense | | | 68,160 | |
| | Obligations under Capital Leases..... | | | 71,840 | |
| | Cash..... | | | | 140,000 |
| | Depreciation Expense (\$681,600/8) | | | 85,200 | |
| | Accumulated Depreciation--Machinery | | | | 85,200 |

Ex. 20-62—Operating lease calculations.

On January 1, 2012, Lewis Corp purchased a building for \$1,800,000, with the intention of leasing it. The building is expected to have a 20 year life, no residual value, and will be depreciated on a straight-line basis. On April 1, 2012, under a cancellable lease, Lewis leased the building to Clark Company for \$540,000 a year (\$45,000 a month) for a four-year period ending March 31, 2016. Clark paid \$540,000 to Lewis on April 1, 2012. During calendar 2012, Lewis incurred \$30,000 in maintenance and other executory costs under the provisions of the lease. This lease is properly classified as an operating lease by both parties.

Ex. 20-62 (Continued)**Instructions**

- (a) What is the income before income taxes reported by Lewis from this lease for the year ended December 31, 2012?
- (b) What is the amount of rent expense reported by Clark from this lease for the year ended December 31, 2012?

Solution 20-62

| | | | |
|-----|--|-----------------------|------------------|
| (a) | Revenue Apr 1-Dec 31, 2012 | $(\$45,000 \times 9)$ | \$405,000 |
| | Expenses: | | |
| | Depreciation $(\$1,800,000/20) \times 9/12)$ | \$67,500 | |
| | Maintenance, etc. | <u>30,000</u> | <u>97,500</u> |
| | Income before taxes | | <u>\$307,500</u> |
| (b) | Rent expense, Apr 1-Dec 31, 2012 | $(\$45,000 \times 9)$ | \$405,000 |

Ex. 20-63—Lessor accounting—sales-type lease.

Albert Corp, a private corporation that adheres to ASPE, is a manufacturer of truck trailers. On January 1, 2012, Albert leases ten trailers to Einstein Inc under a six-year non-cancellable lease agreement. The following information about the lease and the trailers is provided:

- Equal annual payments (due on December 31 each year) will be calculated to provide Albert with an 8% return on their investment .
- Title to the trailers will pass to Einstein at the end of the lease.
- At January 1, 2012, the fair value of each trailer is \$50,000. The cost of each trailer to Albert Corp. is \$45,000. Each trailer has an expected useful life of nine years.
- Collectibility of the lease payments is reasonably assured, and any unreimbursable costs under the lease that are likely to be incurred by Albert can be reasonably estimated.

Instructions

- (a) What type of lease is this for the lessor? Discuss.
- (b) Calculate the annual lease payment. Present value factor for 6 periods at 8% is 4.62288. Round to the nearest dollar.
- (c) Prepare a lease amortization schedule for Albert Corp. for the first three years.
- (d) Prepare the journal entries for the lessor for 2012 and 2013 to record the lease agreement, the receipt of the lease rentals, and the recognition of income. Assume the use of a perpetual inventory system and round all amounts to the nearest dollar.

Solution 20-63

(a) This is a sales-type lease to the lessor, Albert Corp. Albert's gross profit on this sale is \$50,000, which is recognized in the year of sale (2012). It is not an operating lease because title to the assets passes to the lessee, the present value (\$500,000) of the minimum lease payments equals or exceeds 90% (\$450,000) of the fair value of the leased trailers, collectibility is reasonably assured, and any unreimbursable costs under the lease that are likely to be incurred can be reasonably estimated.

(b) $(\$50,000 \times 10) \div 4.62288 = \$108,158$. or
 6 N 8 i 500000 PV CPT PMT => \$108,158

(c) Lease Amortization Schedule (Albert Corp)

| <u>Date</u> | <u>Annual Lease Rental</u> | <u>Interest on Net Investment</u> | <u>Net Investment Recovery</u> | <u>Net Investment</u> |
|-------------|----------------------------|-----------------------------------|--------------------------------|-----------------------|
| 1/1/12 | | | | \$500,000 |
| 12/31/12 | \$108,158 | \$40,000 | \$68,158 | 431,842 |
| 12/31/13 | 108,158 | 34,547 | 73,611 | 358,231 |
| 12/31/14 | 108,158 | 28,658 | 79,500 | 278,731 |

(d)

| | | | | |
|--|--|--|---------|---------|
| Jan 1, 2012 | | | | |
| Lease Payments Receivable (\$108,158 x 6)..... | | | 648,948 | |
| Cost of Goods Sold..... | | | 450,000 | |
| Sales Revenue | | | | 500,000 |
| Inventory..... | | | | 450,000 |
| Unearned Interest Income | | | | 148,948 |
| Dec 31, 2012 | | | | |
| Cash | | | 108,158 | |
| Lease Payments Receivable | | | | 108,158 |
| Unearned Interest Income | | | 40,000 | |
| Interest Income | | | | 40,000 |
| Dec 31, 2013 | | | | |
| Cash | | | 108,158 | |
| Lease Payments Receivable | | | | 108,158 |
| Unearned Interest Income | | | 34,547 | |
| Interest Income | | | | 34,547 |

***Ex. 20-64**—Lessee and lessor accounting (sale-leaseback).

On January 1, 2012, Kirk Corp sells land to Spock Inc for \$4,000,000, and immediately leases the land back. The following information relates to this transaction:

1. The term of the non-cancellable lease is 20 years and the title transfers to Kirk at the end of the lease term.
2. The land has a cost basis of \$3,360,000 to Kirk.
3. The lease agreement calls for equal rental payments of \$407,408 at the end of each year.
4. The land has a fair value of \$4,000,000 on January 1, 2012.
5. The incremental borrowing rate of Kirk Corp is 10%. Kirk is aware that Spock set the annual rentals to ensure a rate of return of 8%.
6. Kirk pays all executory costs, which total \$170,000 in 2012.
7. Collectibility of the rentals is reasonably assured, and any unreimbursable costs under the lease that are likely to be incurred can be reasonably estimated by the lessor.

Instructions

- (a) Prepare all the 2012 journal entries on the books of Kirk Corp to reflect the above sale and lease transactions (include a partial amortization schedule and round all amounts to the nearest dollar.)
- (b) Prepare all the 2012 journal entries on the books of Spock Inc to reflect the above purchase and lease transactions.

***Solution 20-64**

| (a) | Kirk Corp (Lessee) | | |
|---|--------------------|-----------|-----------|
| Jan 1, 2012 | | | |
| Cash | | 4,000,000 | |
| Land..... | | | 3,360,000 |
| Deferred Profit on Sale-Leaseback | | | 640,000 |
| Land under Capital Leases | | 4,000,000 | |
| Obligations under Capital Leases..... | | | 4,000,000 |
| Throughout 2012 | | | |
| Executory Costs (Insurance and Taxes)..... | | 170,000 | |
| Accounts Payable or Cash..... | | | 170,000 |
| Dec 31, 2012 | | | |
| Deferred Profit on Sale-Leaseback (\$640,000/20)..... | | 32,000 | |
| Gain from Sale-Leaseback * | | | 32,000 |
| * a revenue account is used since there is no Depreciation Expense here | | | |
| Interest Expense | | 320,000 | |
| Obligations under Capital Leases..... | | 87,408 | |
| Cash | | | 407,408 |

***Solution 20-64 (Continued)**

| Partial Lease Amortization Schedule | | | | |
|-------------------------------------|---------------------------------|------------------------|--|----------------|
| <u>Date</u> | <u>Annual Lease Payment</u> | <u>Interest 8%</u> | <u>Reduction of Lease Obligation</u> | <u>Balance</u> |
| Jan 1, 2012 | | | | \$4,000,000 |
| Dec 31, 2012 | \$407,408 | \$320,000 | \$87,408 | 3,912,592 |

| (b) Spock Inc (Lessor) | | |
|---|-----------|-----------|
| Jan 1, 2012 | | |
| Land..... | 4,000,000 | |
| Cash..... | | 4,000,000 |
| Lease Payments Receivable (\$407,408 × 20)..... | 8,148,160 | |
| Unearned Interest Income..... | | 4,148,160 |
| Land..... | | 4,000,000 |
| Dec 31, 2012 | | |
| Cash | 407,408 | |
| Lease Payments Receivable | | 407,408 |
| Unearned Interest Income | 320,000 | |
| Interest Income | | 320,000 |

***Ex. 20-65— Lessee and lessor accounting (sale-leaseback).**

On January 1, 2012, Soprano Inc sells machinery to Tenor Corp at its fair value of \$1,200,000 and immediately leases it back. The machinery's original cost was \$2,000,000, and its book value at January 1, 2012 was \$1,050,000. The lease is for 10 years and the implicit interest rate is 10%. The lease payments of \$177,500 start on January 1, 2012. Soprano uses straight-line depreciation and assumes there will be no residual value at the end of the 10 years. Assume this lease will be accounted for as a capital (finance) lease by both parties.

Instructions

- Prepare all of Soprano's 2012 entries to reflect the above sale and lease transactions.
- Prepare all of Tenor's 2012 entries to reflect the above sale and lease transactions.

***Solution 20-65**

| | | |
|--|-----------------------|-----------|
| (a) | Soprano Inc. (Lessee) | |
| Jan 1, 2012 | | |
| Cash | 1,200,000 | |
| Accumulated Depreciation, Machinery | 950,000 | |
| Machinery | | 2,000,000 |
| Deferred Profit on Sale-Leaseback | | 150,000 |
| Machinery under Capital Lease | 1,200,000 | |
| Obligation under Capital Lease | | 1,200,000 |
| Obligation under Capital Lease | 177,500 | |
| Cash | | 177,500 |
| Dec 31, 2012 | | |
| Depreciation Expense | 120,000 | |
| Accumulated Depreciation—Leased Machinery | | 120,000 |
| Deferred Profit on Sale-Leaseback | 15,000 | |
| Depreciation Expense—Leased Machinery | | 15,000 |
| Interest Expense [$\$10\% \times (\$1,200,000 - \$177,500)$] | 102,250 | |
| Interest Payable | | 102,250 |
| (b) | Tenor Corp. (Lessor) | |
| Jan 1, 2012 | | |
| Machinery | 1,200,000 | |
| Cash | | 1,200,000 |
| Lease Payments Receivable ($\$177,500 \times 10$) | 1,775,000 | |
| Machinery | | 1,200,000 |
| Unearned Interest Income | | 575,000 |
| Cash | 177,500 | |
| Lease Payments Receivable | | 177,500 |
| Dec 31, 2012 | | |
| Unearned Interest Income | 102,250 | |
| Interest Income | | 102,250 |

PROBLEMS

Pr. 20-66—Lessee accounting—capital lease.

Matsushita Ltd, a private corporation adhering to ASPE, enters into a non-cancellable lease agreement on July 1, 2012, to lease equipment from Momoyama Ltd. The following data are relevant to the lease agreement:

1. The term of the lease is 4 years, with no renewal option. Payments of \$126,807 are due on June 30 of each year, with the first payment due June 30, 2013.
2. The fair value of the equipment on July 1, 2012 is \$420,000. The equipment has an economic life of 6 years with no residual value.
3. Matsushita depreciates similar equipment it owns on the double declining-balance basis.
4. Matsushita's incremental borrowing rate is 10%. The lessee is aware that the lessor used an implicit rate of 8% in calculating the lease payments
5. Present value factor for 4 periods at 8% is 3.31213; at 10%, 3.16986.

Instructions

- (a) What type of lease this is for Matsushita? What is your rationale?
- (b) Prepare the journal entries on Matsushita's books that relate to the lease agreement for the following dates. Round all amounts to the nearest dollar. Include a partial amortization schedule.
 1. July 1, 2012.
 2. December 31, 2012.
 3. June 30, 2013.
 4. December 31, 2013.

Solution 20-66

- (a) Present value of minimum lease payments:
 $\$126,807 \times \text{PV of an ordinary annuity for 4 periods at 8\% (use the lessor's implicit rate, since it is known)}$
 $\$126,807 \times 3.31213 = \$420,000$

Because the present value of the lease payments (\$420,000) equals the fair value of the leased property, it is a capital lease.

| | | |
|---|---------|---------|
| (b) July 1, 2012 | | |
| Equipment under Capital Leases | 420,000 | |
| Obligations under Capital Leases..... | | 420,000 |
| | | |
| Dec 31, 2012 | | |
| Depreciation Expense $[(\$420,000 \times 2/4) \times 6/12]$ | 105,000 | |
| Accumulated Depreciation—Leased Equipment..... | | 105,000 |
| | | |
| Interest Expense $(\$33,600 \times 6/12)$ | 16,800 | |
| Interest Payable..... | | 16,800 |

Solution 20-66 (Continued)

| <u>Date</u> | <u>Annual Lease Payment</u> | <u>Lease Amortization Schedule</u> | | <u>Balance of Lease Obligation</u> |
|---------------|--|--------------------------------------|--------------------------------------|------------------------------------|
| | | <u>Interest on Unpaid Obligation</u> | <u>Reduction of Lease Obligation</u> | |
| Jul 1/12 | | | | \$420,000 |
| Jun 30/13 | \$126,807 | \$33,600 | \$ 93,207 | 326,793 |
| Jun 30/14 | 126,807 | 26,143 | 100,664 | 226,129 |
| June 30, 2013 | | | | |
| | Interest Expense | | 33,600 | |
| | Obligations under Capital Leases | | 93,207 | |
| | Cash | | | 126,807 |
| | (Interest payable entry assumed to have been reversed Jan 1/13). | | | |
| Dec 31, 2013 | | | | |
| | Depreciation Expense | | 157,500 | |
| | Accumulated Depreciation—Leased Equipment..... | | | 157,500 |
| | {(\$420,000 × 2/4) + [(\$420,000 – \$210,000) × 2/4] × 6/12} | | | |
| | Interest Expense (\$26,143 × 6/12) | | 13,072 | |
| | Interest Payable | | | 13,072 |

Pr. 20-67—Lessee accounting—capital lease.

On January 1, 2012, Fargo Corp enters into a ten-year non-cancellable lease with Wells Ltd for equipment having an estimated useful life of 11 years and a fair value of \$6,000,000. Fargo's incremental borrowing rate is 8%, but they do not know Wells' implicit rate. Fargo uses the straight-line method to depreciate assets. The lease contains the following provisions:

1. Semi-annual lease payments of \$438,000 (including \$38,000 for property taxes), payable on January 1 and July 1 of each year.
2. A guarantee by Fargo Corp that Wells Ltd will realize \$200,000 from selling the asset at the expiration of the lease. However, the actual residual value is expected to be \$120,000.

Both companies adhere to ASPE.

Instructions

- (a) Calculate the undiscounted minimum lease payments over the life of the lease.
- (b) Calculate the present value of the minimum lease payments. PV factor for annuity due of 20 semi-annual payments at 8% annual rate, 14.13394; PV factor for \$1 due in 20 interest periods at 8% annual rate, .45639. Round to nearest dollar.
- (c) What kind of lease is this to Fargo Corp? Why?
- (d) Present the journal entries that Fargo would record during the first year of the lease. (Include an amortization schedule through January 1, 2013 and round to the nearest dollar.)

Solution 20-67

(a) The undiscounted minimum lease payments are:

| | |
|------------------------------------|---------------------------|
| Semi-annual rental payments | \$ 438,000 |
| Less executory costs | <u>(38,000)</u> |
| | 400,000 |
| Number of payments over lease term | <u>20</u> |
| | 8,000,000 |
| Residual guarantee | <u>200,000</u> |
| Minimum lease payments | <u><u>\$8,200,000</u></u> |

(b) The present value of the minimum lease payments is:

| | |
|--|---------------------------|
| Factor for present value of an annuity due, 20 periods, 4% | 14.13394 |
| Semi-annual payments, less executory costs | <u>\$ 400,000</u> |
| (OR $20 N 4 i 400000 PMT CPT PV \Rightarrow 5,653,576$) | <u>\$5,653,576</u> |
| Factor for present value of \$1 due in 20 semi-annual interest periods at 4% | .45639 |
| Guaranteed residual | <u>\$200,000</u> |
| (OR $20 N 4 I 200000 FV CPT PV \Rightarrow 91,277$) | <u>91,278</u> |
| Present value of lease payments | <u><u>\$5,744,854</u></u> |

(c) This lease is a capital lease to Fargo Corp because its 10 year term exceeds 75% of the equipment's estimated useful life. In addition, the present value of the minimum lease payments exceeds 90% of the current fair value of the equipment (\$6,000,000).

(d)

Lease Amortization Schedule

| <u>Date</u> | <u>Semi-Annual Lease Payment</u> | <u>Interest 4%</u> | <u>Reduction of Lease Obligation</u> | <u>Balance</u> |
|-------------|----------------------------------|--------------------|--------------------------------------|----------------|
| Initial PV | | | | \$5,744,854 |
| Jan 1/12 | \$400,000 | — | \$400,000 | 5,344,854 |
| Jul 1/12 | 400,000 | \$213,794 | 186,206 | 5,158,648 |
| Jan 1/13 | 400,000 | 206,346 | 193,654 | 4,964,994 |

| | |
|--|-----------|
| Jan 1, 2012 | |
| Equipment under Capital Leases | 5,744,854 |
| Obligations under Capital Leases | 5,744,854 |
| AND | |
| Obligations under Capital Leases | 400,000 |
| Property Taxes | 38,000 |
| Cash | 438,000 |

(These two entries can be combined)

Solution 20-67 (Continued)

| | | |
|---|----------|---------|
| July 1, 2012 | | |
| Obligations under Capital Leases..... | 186,206 | |
| Property Taxes..... | 38,000 | |
| Interest Expense | 213,794 | |
| Cash | | 438,000 |
| | | |
| Dec 31, 2012 | | |
| Depreciation Expense | 511,350* | |
| Accumulated Depreciation—Leased Equipment | | 511,350 |
| Interest Expense | 206,346 | |
| Interest Payable | | 206,346 |
| *(\$5,744,854 – 120,000) ÷ 11 = \$511,350. | | |

Pr. 20-68—Lessor accounting—lease with IFRS criteria.

On January 1, 2012, Royal Air Inc. enters into an eight year, non-cancellable lease agreement to lease an airplane to Pacific Airlines, with payments required at the end of each year. The following information relates to this agreement:

1. Pacific Airlines has the option to purchase the airplane for \$7,000,000 at the end of the lease, at which time the airplane’s fair value is expected to be \$12,000,000.
2. The airplane cost Royal Air \$30,000,000. It has an estimated useful life of fifteen years, and a residual value of zero at the end of that time (due to technological obsolescence).
3. Pacific will pay all executory costs related to the leased airplane.
4. Annual year-end lease payments of \$4,562,337 will allow Royal Air to earn an 8% return on its investment.

Instructions

- (a) What type of lease is this for the lessor? Justify your answer. Assume Royal Air adheres to IFRS.
- (b) Prepare a lease amortization schedule for Royal Air for the first two years (2012 and 2013). Round all amounts to the nearest dollar.
- (c) Prepare the journal entries on Royal Air’s books to record the lease agreement, to reflect payments received under the lease, and to recognize income, for the years 2012 and 2013.

Solution 20-68

(a) Under IFRS, the presence of any one or a combination of the following situations will normally support classification as a finance lease:

1. There is reasonable assurance that the lessee will obtain ownership of the leased asset by the end of the lease term.
2. The lease term is long enough that the lessee will receive substantially all of the economic benefits expected to be derived from using the leased property over its economic life.
3. The lease allows the lessor to recover substantially all of its investment in the leased property and to earn a return on the investment
4. The leased asset is so specialized that, without major modification, it would be of use only to the lessee.

Both #1 and #3 apply here, and since only one criterion has to be satisfied, this is a finance lease, and would be classified as an “other financing lease” for Royal Air (called a “direct financing lease” under ASPE).

#1. The option to buy the airplane for \$7,000,000 at the termination of the lease when the asset is expected to have a fair value of \$12,000,000 constitutes a bargain purchase option. Since the bargain purchase option exists, it is assumed Pacific will exercise the option and acquire the airplane.

#3. Since the undiscounted total of the eight lease payments plus the bargain purchase option is \$43,498,696 and the present value of the eight payments plus the BPO is approx \$30,000,000 (8 N 8 i 4562337 PMT 7000000 FV CPT PV = > \$29,999,986) this criterion is satisfied.

#2 and #4 do not apply. Note that the IFRS criteria do not cite any specific numbers, as the ASPE criteria do. They are intended to be principles based and require professional judgment.

(b)

Royal Air's Lease Amortization Schedule

| <u>Date</u> | <u>Annual Lease Rental</u> | <u>Interest on Net Investment</u> | <u>Net Investment Recovery</u> | <u>Net Investment</u> |
|-------------|----------------------------|-----------------------------------|--------------------------------|-----------------------|
| Jan 1/12 | | | | \$30,000,000 |
| Dec 31/12 | \$4,562,337 | \$2,400,000 | \$2,162,337 | 27,837,663 |
| Dec 31/13 | 4,562,337 | 2,227,013 | 2,335,324 | 25,502,339 |

| | | | |
|---|------------|--|------------|
| Jan 1, 2012 | | | |
| (c) Lease Payments Receivable (\$4,562,337 × 8) + \$7,000,000 | 43,498,696 | | |
| Airplane | | | 30,000,000 |
| Unearned Interest Income | | | 13,498,696 |
| Dec 31, 2012 | | | |
| Cash | 4,562,337 | | |
| Lease Payments Receivable | | | 4,562,337 |
| Unearned Interest Income | 2,400,000 | | |
| Interest Income | | | 2,400,000 |

Solution 20-68 (Continued)

| | | |
|--------------------------------|-----------|-----------|
| Dec 31, 2013 | | |
| Cash | 4,562,337 | |
| Lease Payments Receivable..... | | 4,562,337 |
| Unearned Interest Income..... | 2,227,013 | |
| Interest Income | | 2,227,013 |

***Pr. 20-69—Sale and Leaseback.**

Simian Valley Corp owns both the land and building that it uses for a banana plantation. The original cost of the building was \$412,500 and had a book value of \$225,000 at January 1, 2012. On this date the building was sold to Bonobo Leasing Inc for \$250,000 and simultaneously leased back to Simian Valley.

The lease had a guaranteed 10-year term and required annual payments of \$47,250 on December 31 each year. The lease allows the property to revert to the lessee at the end of the lease. Simian Valley’s incremental borrowing rate is 12%, but they do not know Bonobo’s implicit rate. Bonobo will pay property taxes on the building of \$6,000 per year; however, this cost is included in the lease payment. Simian Valley will pay maintenance and other operating costs. The building will be depreciated straight line over its remaining 10-year life. The lease qualifies as a capital (finance) lease since the lease term is equal to the economic life of the building.

Required:

- (a) Prepare entries on Simian Valley’s books to record the sale and leaseback of the building.
- (b) Prepare year–end adjusting entries for Simian Valley for 2012.

***Solution 20-69**

| | | |
|--|----------|---------|
| (a). Cash | 250,000 | |
| Accumulated Depreciation, Building | 187,500* | |
| Building | | 412,500 |
| Deferred Profit on Sale-leaseback..... | | 25,000 |
| *(\$412,500 – \$225,000) | | |
| Building under Capital Leases..... | 250,000 | |
| Obligations under Capital Leases | | 250,000 |

***Solution 20-69 (Continued)**

| | | |
|--|--------|--------|
| (b) Interest Expense ($\$250,000 \times 12\%$) | 30,000 | |
| Obligations under Capital Leases | | 30,000 |
| Obligations under Capital Leases | 41,250 | |
| Property tax expense | 6,000 | |
| Cash | | 47,250 |
| Depreciation Expense ($\$250,000/10$) | 25,000 | |
| Accumulated Amortization—Leased Building | | 25,000 |
| Deferred Profit on Sale-Leaseback ($\$25,000 \div 10$) | 2,500 | |
| Depreciation Expense | | 2,500 |

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CHAPTER 21

ACCOUNTING CHANGES AND ERROR ANALYSIS

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|------|---|
| b | 1. | Identify accounting changes. |
| d | 2. | Voluntary change in accounting policy. |
| c | 3. | Identify changes in accounting policy. |
| c | 4. | Identify accounting errors. |
| a | 5. | Alternative accounting methods allowed for accounting changes. |
| d | 6. | Accounting for retrospective change. |
| b | 7. | Underlying principle of retrospective application. |
| a | 8. | Identify changes in accounting policy. |
| a | 9. | Retrospective application. |
| c | 10. | Disclosures required under IFRS. |
| d | 11. | Change in depreciation method. |
| c | 12. | Change in inventory costing method. |
| b | 13. | Accounting policy changes and errors. |
| a | 14. | Change accounted for prospectively. |
| b | 15. | Change in accounting estimate. |
| b | 16. | Identify a change in accounting estimate. |
| b | 17. | Adjustments required when transitioning to IFRS. |
| b | 18. | Change in asset service life. |
| c | 19. | Identify correct statement. |
| c | 20. | Identify a correction of an error. |
| b | *21. | Counterbalancing errors. |
| c | *22. | Impact of failure to record purchase and count in ending inventory. |
| d | *23. | Impact of incorrectly recording depreciation. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|------|---|
| c | 24. | Calculate revised depreciation expense. |
| d | 25. | Calculate revised depreciation expense. |
| c | 26. | Calculate net income with change in depreciation method. |
| b | 27. | Calculate net income with change in inventory costing method. |
| a | 28. | Calculate effect on net income with change in an accounting estimate. |
| d | 29. | Calculate depreciation expense after a change in estimated life. |
| c | 30. | Calculate effect on retained earnings of error in recording asset. |
| d | 31. | Calculate cumulative effect of error on income statement. |
| d | *32. | Effect of errors on net income. |
| c | *33. | Effect of errors on working capital. |
| c | *34. | Effect of errors on retained earnings. |
| a | *35. | Effect of errors on net income and retained earnings. |

MULTIPLE CHOICE—Computational (Continued)

| Answer | No. | Description |
|--------|------|--|
| a | *36. | Effect of errors on net income. |
| b | *37. | Effect of errors on retained earnings. |
| c | *38. | Effect of errors on working capital. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|---|
| b | 39. | Use of retrospective treatment. |
| c | 40. | Cumulative effect of inventory costing change. |
| a | 41. | Cumulative effect of inventory costing change. |
| c | 42. | Balance of accumulated depreciation after a change in estimate. |
| b | 43. | Calculate carrying value of a patent with a change in estimate. |
| c | 44. | Impact of failure to accrue insurance costs. |
| a | 45. | Retained earnings balance with multiple errors. |
| b | 46. | Depreciation expense to be recorded following an error. |

EXERCISES

| Item | Description |
|---------|---|
| E21-47 | Overall objectives of accounting and disclosure standards for accounting changes. |
| E21-48 | Conditions for a change in accounting policy under IFRS and ASPE. |
| E21-49 | Matching accounting changes to situations. |
| E21-50 | Matching disclosures to situations. |
| E21-51 | Retrospective application for accounting changes. |
| E21-52 | Recognition of accounting changes or corrections. |
| E21-53 | Change in estimate, voluntary change in accounting policy, correction of errors. |
| E21-54 | Economic reasons for changing accounting policies. |
| E21-55 | Effects of errors on financial statements. |
| E21-56 | Effects of errors on net income. |
| *E21-57 | Non-counterbalancing error correction. |

PROBLEMS

| Item | Description |
|---------|---|
| P21-58 | Corrections of errors. |
| P21-59 | Accounting for and financial statement presentation of error corrections. |
| *P21-60 | Error corrections and adjustments. |

*This topic is dealt with in an Appendix to the chapter.

MULTIPLE CHOICE—Conceptual

1. Which of the following is *not* considered to be an accounting change?
 - a. Change in accounting estimate.
 - b. Change in the composition of the board of directors.
 - c. Change in accounting policy.
 - d. Correction of a prior period error.

2. One condition required by IFRS is that a voluntary change in accounting policy must result in information that is
 - a. more reliable than before.
 - b. more reliable, but equally as relevant as before.
 - c. both more reliable and more relevant.
 - d. more relevant, but equally as reliable as before.

3. Which of the following is *not* considered to be a change in accounting policy?
 - a. Changing from weighted average to FIFO for valuing inventories.
 - b. Initial adoption of a new accounting standard.
 - c. Reclassifying items on the financial statements of prior periods to make the statements more comparable.
 - d. Changing from the cost basis to the fair value model for measuring investments.

4. Which of the following is *not* considered to be an accounting error?
 - a. Changing from the cash basis to the accrual basis.
 - b. Expensing the cost of a new machine.
 - c. Changing depreciation methods from declining-balance to straight line.
 - d. Failing to accrue wages payable at year end.

5. Which of the following alternative accounting methods is(are) allowed by ASPE and IFRS for reporting accounting changes?
 - a. Prospective and retrospective.
 - b. Current and retrospective.
 - c. Current and prospective.
 - d. Retrospective only.

6. Accounting for a retrospective change requires
 - a. reissuing all prior financial statements affected by the change.
 - b. adjusting the ending balance of retained earnings for the current year.
 - c. reporting the “catch-up” adjustment on the current income statement.
 - d. adjusting the opening balance of each affected component of equity for the current year.

7. The underlying principle of the retrospective application method is to
 - a. apply changes currently and in the future.
 - b. present all comparative periods as if the new accounting policy had always been used.
 - c. make assumptions about what management’s intent was in prior years.
 - d. disclose all mistakes made in the past.

8. Which of the following is not considered a change in accounting policy?
- Change in depreciation method.
 - Change from FIFO to weighted average cost.
 - Initial adoption of a new accounting standard.
 - Change in accounting for a defined benefit pension plan from deferral and amortization to immediate recognition.
9. Retrospective application is required for all
- errors and non-mandated policy changes.
 - changes in estimates and non-mandated policy changes.
 - errors and changes in estimates.
 - changes in estimates.
10. Under IFRS, which of the following disclosures is *not* required for the correction of an accounting error?
- The amount of the correction made to each affected financial statement item for each prior period presented.
 - The nature of the error.
 - Who was responsible for the error.
 - The effect of the correction on both basic and diluted earnings per share for each prior period presented.
11. A company changes from straight-line depreciation to the double declining balance method. The entry to record this change should include a
- debit to Accumulated Depreciation.
 - credit to Other Comprehensive Income.
 - credit to Future (Deferred) Income Tax Asset.
 - debit to Future (Deferred) Income Tax Liability.
12. Stockton Ltd changed its inventory system from FIFO to average cost. What type of accounting change does this represent?
- A change in accounting estimate for which the financial statements for the prior periods included for comparative purposes do not need to be restated.
 - A change in accounting policy for which the financial statements for prior periods included for comparative purposes do not need to be restated.
 - A change in accounting policy for which the financial statements for prior periods included for comparative purposes should be restated.
 - A change in accounting estimate for which the financial statements for prior periods included for comparative purposes should be restated.
13. For accounting policy changes and errors, which of the following is *not* allowed?
- To use retrospective application for a policy change without restatement, if restatement is impractical.
 - To net accounting errors for disclosure purposes.
 - To use prospective application for a policy change, if allowed in the transition policy.
 - To use prospective application for a change in estimate.

14. Which type of accounting change may be accounted for in current and future periods only?
- Change in accounting estimate.
 - Change in inventory costing method.
 - Change in accounting policy.
 - Correction of an error.
15. Which of the following is (are) the proper time period(s) to record the effects of a change in accounting estimate?
- Retrospectively only.
 - Current period and prospectively.
 - Current period and retrospectively.
 - Current period only.
16. When a company decides to switch from deferring development costs to expensing them immediately, this change should be treated as a
- change in accounting policy.
 - change in accounting estimate.
 - prior period adjustment.
 - correction of an error.
17. When an entity is first transitioning to IFRS, any adjustments required to bring GAAP measures in line with IFRS
- are recognized directing in other comprehensive income.
 - are recognized directly in retained earnings.
 - must be accounted for by prospective application.
 - are ignored.
18. The service life of a building that has been depreciated for 30 years of an originally estimated 50-year life (no residual value) has been revised to an estimated remaining life of 10 years. Based on this information, the accountant should
- continue to depreciate the building over the original 50-year life.
 - depreciate the remaining book value over the remaining life of the asset.
 - adjust accumulated depreciation to its appropriate balance through net income, based on a 40-year life, and then depreciate the adjusted book value as though the estimated life had always been 40 years.
 - adjust accumulated depreciation to its appropriate balance through retained earnings, based on a 40-year life, and then depreciate the adjusted book value as though the estimated life had always been 40 years.
19. Which of the following statements is correct?
- Changes in accounting policy are always handled in the current or prospective period.
 - Prior year statements should always be restated for changes in accounting estimates.
 - A change from the deferral and amortization method to the immediate recognition method of accounting for defined benefit pension plans should be treated as a change in accounting policy.
 - Correction of prior period error should be presented as an adjustment on the current income statement.

20. An example of a correction of an error in previously issued financial statements is a change
- from the FIFO method of inventory valuation to the average cost method.
 - in the service life of plant assets, based on changes in the economic environment.
 - from the cash basis of accounting to the accrual basis of accounting.
 - in the tax assessment related to a prior period.
- *21. Counterbalancing errors do *not* include
- errors that correct themselves in two years.
 - errors that correct themselves in three or more years.
 - an understatement of ending inventory.
 - an overstatement of unearned revenue.
- *22. A company using a perpetual inventory system neglected to record a purchase of merchandise on account at year end. This merchandise was also omitted from the year-end physical count. How will these errors affect assets, liabilities, and shareholders' equity at year end and net income for the year?
- | | <u>Assets</u> | <u>Liabilities</u> | <u>Shareholders' Equity</u> | <u>Net Income</u> |
|----|---------------|--------------------|-----------------------------|-------------------|
| a. | No effect | Understate | Overstate | Overstate. |
| b. | No effect | Overstate | Understate | Understate. |
| c. | Understate | Understate | No effect | No effect. |
| d. | Understate | No effect | Understate | Understate. |
- *23. MissTake Corp is a small private corporation that does not prepare comparative statements. At the end of their 2012 fiscal year, it was discovered that the 2011 depreciation expense on their computer equipment had been incorrectly debited to maintenance expense. How should MissTake deal with this situation?
- Prepare an adjusting entry to debit depreciation expense and credit maintenance expense.
 - Prepare an adjusting entry to debit retained earnings and credit maintenance expense.
 - Restate their 2011 financial statements.
 - Ignore it.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | b | 5. | a | 9. | a | 13. | b | 17. | b | *21. | b |
| 2. | d | 6. | d | 10. | c | 14. | a | 18. | b | *22. | c |
| 3. | c | 7. | b | 11. | d | 15. | b | 19. | c | *23. | d |
| 4. | c | 8. | a | 12. | c | 16. | b | 20. | c | | |

MULTIPLE CHOICE—Computational

24. On January 1, 2009, Dietrich Ltd bought machinery for \$250,000. They used straight-line depreciation for this machinery, over an estimated useful life of ten years, with no residual value. At the beginning of 2012, Dietrich decided the estimated useful life of this machinery was only eight years (from the date of acquisition), still with no residual value. For calendar 2012, the depreciation expense for this machinery is
- \$25,000.
 - \$31,250.
 - \$35,000.
 - \$50,000.
25. On January 1, 2010, Monroe Corporation bought machinery for \$800,000. They used double declining balance depreciation for this equipment, over an estimated life of eight years, with an estimated \$200,000 residual value. At the beginning of 2013, Monroe decided to change to the straight-line method of depreciation for this equipment. For calendar 2013, the depreciation expense for this machinery is
- \$100,000.
 - \$ 92,500.
 - \$ 75,050.
 - \$ 27,500.
26. On January 1, 2010, Russell Inc purchased a machine for \$300,000. The machine has an estimated five year life, and no residual value. Double declining balance depreciation has been used for financial statement reporting and CCA for income tax reporting. Effective January 1, 2013, Russell decided to change to straight-line depreciation for this machine. for the year ended December 31, 2013, Russell's pretax income before depreciation on this asset is \$250,000. Their income tax rate has been 30% for many years. What net income should Russell report for the year ended December 31, 2013?
- \$190,000.
 - \$171,640.
 - \$133,000.
 - \$91,000.

27. Mansfield Corp began operations on January 1, 2011, and uses FIFO to cost its inventory. Management is contemplating a change to the average cost method and is interested in determining what effect such a change will have on net income. Accordingly, the following information has been developed:

| <u>Ending Inventory</u> | <u>2011</u> | <u>2012</u> |
|------------------------------------|-------------|-------------|
| FIFO | \$240,000 | \$270,000 |
| Average cost | 200,000 | 250,000 |
| Net Income (calculated using FIFO) | 375,000 | 450,000 |

Based upon the above information, a change to the average cost method in 2012 would result in net income for 2012 of

- \$395,000.
- \$430,000.
- \$470,000.
- \$490,000.

Use the following information for questions 28 and 29.

Lemmon Corp purchased a machine on January 1, 2009, for \$300,000. The machine is being depreciated on a straight-line basis, using an estimated useful life of six years with no residual value. On January 1, 2012, Lemmon determined, as a result of additional information, that the machine had an estimated useful life of eight years from the date of acquisition with no residual value. An accounting change was made in 2012 to reflect this additional information.

28. Assuming that the direct effects of this change are limited to the effect on depreciation and the related tax provision, and that the income tax rate for all years since the machine was purchased was 30%, what should be reported in the income statement for the year ended December 31, 2012, as the cumulative effect on prior years of changing the estimated useful life of the machine?
- \$0.
 - \$20,000.
 - \$30,000.
 - \$105,000.
29. What is the amount of depreciation expense on this machine that should be reported in Lemmon's income statement for the year ended December 31, 2012?
- \$75,000.
 - \$60,000.
 - \$37,500.
 - \$30,000.

Use the following information for questions 30 and 31.

On January 2, 2010, Beaver Corp. purchased machinery for \$135,000. The entire cost was incorrectly recorded as an expense. The machinery has a nine-year life and a \$9,000 residual value. Beaver uses straight line depreciation for all its tangible assets. The error was not discovered until May 1, 2012, and the appropriate corrections were made. Ignore income tax considerations.

30. Before the corrections were made, retained earnings was understated by
- \$135,000.
 - \$121,000.
 - \$107,000.
 - \$ 93,000.
31. Beaver's income statement for the year ended December 31, 2012 should show the cumulative effect of this error of
- \$121,000.
 - \$107,000.
 - \$ 93,000.
 - \$ 0.

Use the following information for questions *32 through *34.

Curtis Ltd's December 31 year-end financial statements contained the following errors:

| | <u>Dec. 31, 2011</u> | <u>Dec. 31, 2012</u> |
|----------------------|----------------------|----------------------|
| Ending inventory | \$1,500 understated | \$2,200 overstated |
| Depreciation expense | \$400 understated | |

An insurance premium of \$3,600 was prepaid in 2011 covering the calendar years 2011, 2012, and 2013. This had been debited to insurance expense. In addition, on December 31, 2012, fully depreciated machinery was sold for \$1,900 cash, but the sale was not recorded until 2013. There were no other errors during 2012 or 2013 and no corrections have been made for any of the errors. Ignore income tax considerations.

- *32. What is the total net effect of the errors on Curtis's 2012 net income?
- Net income understated by \$2,900.
 - Net income overstated by \$1,500.
 - Net income overstated by \$2,600.
 - Net income overstated by \$3,000.
- *33. What is the total net effect of the errors on the amount of Curtis's working capital at December 31, 2012?
- Working capital overstated by \$1,000.
 - Working capital overstated by \$300.
 - Working capital understated by \$900.
 - Working capital understated by \$2,400.
- *34. What is the total effect of the errors on the balance of Curtis's retained earnings at December 31, 2012?
- Retained earnings understated by \$2,000.
 - Retained earnings understated by \$900.
 - Retained earnings understated by \$500.
 - Retained earnings overstated by \$700.

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- *35. At December 31, 2012, Grable Corp's auditor discovered the following errors: accrued salaries payable of \$11,000 were *not* recorded at December 31, 2011; and office supplies on hand of \$5,000 at December 31, 2012 had been treated as expense instead of supplies inventory. Neither of these errors was discovered nor corrected. The effect of these two errors would cause
- 2012 net income to be understated \$16,000 and December 31, 2012 retained earnings to be understated \$5,000.
 - 2011 net income and December 31, 2011 retained earnings to be understated \$11,000 each.
 - 2011 net income to be overstated \$6,000 and 2012 net income to be understated \$5,000.
 - 2012 net income and December 31, 2012 retained earnings to be understated \$5,000 each.

Use the following information for questions *36 through *38.

Van Doren Inc began operations on January 1, 2011. Financial statements for 2011 and 2012 contained the following errors:

| | <u>Dec. 31, 2011</u> | <u>Dec. 31, 2012</u> |
|----------------------|----------------------|----------------------|
| Ending inventory | \$33,000 too high | \$39,000 too low |
| Depreciation expense | 21,000 too high | — |
| Insurance expense | 15,000 too low | 15,000 too high |
| Prepaid insurance | 15,000 too high | — |

In addition, on December 31, 2012 fully depreciated equipment was sold for \$7,200, but the sale was not recorded until 2013. No corrections have been made for any of the errors. Ignore income tax considerations.

- *36. The total effect of the errors on Van Doren's 2012 net income is
- understated by \$94,200.
 - understated by \$61,200.
 - overstated by \$28,800.
 - overstated by \$49,800.
- *37. The total effect of the errors on Van Doren's retained earnings at December 31, 2012 is that the balance is understated by
- \$82,200.
 - \$67,200.
 - \$46,200.
 - \$34,200.
- *38. The total effect of the errors on the Van Doren's working capital at December 31, 2012 is that working capital is understated by
- \$100,200.
 - \$79,200.
 - \$46,200.
 - \$31,200.

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 24. | c | 27. | b | 30. | c | *33. | c | *36. | a |
| 25. | d | 28. | a | 31. | d | *34. | c | *37. | b |
| 26. | c | 29. | d | *32. | d | *35. | a | *38. | c |

Answers

MULTIPLE CHOICE—CPA Adapted

39. Which of the following should be given retrospective treatment?

| | <u>Change in Estimated Lives of Depreciable Assets</u> | <u>Change from Unacceptable Policy to Acceptable Policy</u> |
|----|--|---|
| a. | Yes | Yes |
| b. | No | Yes |
| c. | Yes | No |
| d. | No | No |

40. On January 1, 2012, Ravinder Ltd. changed its inventory valuation method to FIFO from weighted-average cost for financial statement and income tax purposes, to make their reporting as reliable and more relevant. The change resulted in a \$600,000 increase in the beginning inventory at January 1, 2012. Assume a 40% income tax rate. The cumulative effect of this accounting change reported for the year ended December 31, 2012 is

- a. \$ 0.
- b. \$240,000.
- c. \$360,000.
- d. \$600,000.

41. On January 1, 2012, Chickadee Corp changed its inventory costing to average cost from FIFO for financial statement and income tax purposes, to make their reporting as reliable and more relevant. The change resulted in a \$400,000 increase in the beginning inventory at January 1, 2012. Assume a 30% income tax rate. The cumulative effect of this accounting change should be reported by Chickadee in its 2012

- a. retained earnings statement as a \$280,000 addition to the beginning balance.
- b. income statement as \$280,000 other comprehensive income.
- c. retained earnings statement as a \$400,000 addition to the beginning balance.
- d. income statement as a \$400,000 cumulative effect of accounting change.

42. On January 1, 2008, Plover Ltd purchased a machine for \$330,000 and depreciated it using the straight-line method with an estimated useful life of eight years with no residual value. On January 1, 2011, Plover determined that the machine had a useful life of only six years from the date of acquisition, but will have a residual value of \$30,000. An accounting change was made in 2011 to reflect these additional facts. At December 31, 2012, the accumulated depreciation for this machine should have a balance of

- a. \$182,500.
- b. \$187,500.
- c. \$241,250.
- d. \$250,000.

43. On January 1, 2009, Kang Corp purchased a patent for \$238,000. The patent is being amortized straight-line with no residual value over its remaining legal life of 15 years. At the beginning of 2012, however, Kang determined that the economic benefits of the patent would not last longer than ten years from the date of acquisition. What amount should be reported in the balance sheet for the patent, net of accumulated amortization, at December 31, 2012?
- \$142,800.
 - \$163,200.
 - \$168,000.
 - \$174,550.

44. On December 31, 2011, the bookkeeper at Akmad Corp did not record special insurance costs that had been incurred (but not yet paid), related to a building that Akmad Corp is constructing, What is the effect of the omission on accrued liabilities and retained earnings in the December 31, 2011 balance sheet?

| | <u>Accrued Liabilities</u> | <u>Retained Earnings</u> |
|----|----------------------------|--------------------------|
| a. | No effect | No effect |
| b. | No effect | Overstated |
| c. | Understated | No effect |
| d. | Understated | Overstated |

45. Chandra Corp is a calendar-year corporation whose financial statements for 2011 and 2012 included errors as follows:

| <u>Year</u> | <u>Ending Inventory</u> | <u>Depreciation Expense</u> |
|-------------|-------------------------|-----------------------------|
| 2011 | \$36,000 overstated | \$30,000 overstated |
| 2012 | 12,000 understated | 10,000 understated |

Assume that purchases were recorded correctly and that no correcting entries were made at December 31, 2011 or December 31, 2012. Ignoring income taxes, by how much should Chandra's retained earnings be retrospectively adjusted at January 1, 2013?

- \$32,000 increase
 - \$8,000 increase
 - \$4,000 decrease
 - \$2,000 increase
46. On January 1, 2011, Maurice Corp. acquired a machine at a cost of \$100,000. It is to be depreciated straight line over a five-year period with no residual value. Because of a bookkeeping error, no depreciation was recognized in Maurice's 2011 financial statements. The oversight was discovered during the preparation of Maurice's 2012 financial statements. Depreciation expense on this machine for 2012 should be
- \$0.
 - \$20,000.
 - \$25,000.
 - \$40,000.

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|
| 39. | b | 41. | a | 43. | b | 45. | a |
| 40. | c | 42. | c | 44. | c | 46. | b |

Unauthorized

DERIVATIONS — Computational

| No. | Answer | Derivation |
|------|--------|--|
| 24. | c | Acc deprec to Dec 31/11 $\$250,000/10 \times 3 = \$75,000$ new annual expense $\$250,000 - \$75,000 = \$175,000/8-3 = \$35,000$. |
| 25. | d | Acc deprec to Dec 31/12 (DDB) $(\$800,000 \times .25) + (\$600,000 \times .25) + (\$450,000 \times .25) = \$462,500$ new depreciable amount $\$800,000 - \$200,000 - \$462,500 = \$137,500$ new annual expense $\$137,500/5 = \$27,500$. |
| 26. | c | $\$300,000 \div 5 = \$60,000$ $(\$250,000 - \$60,000) \times (1 - .3) = \$133,000$. |
| 27. | b | $\$450,000 - (\$270,000 - \$250,000) = \$430,000$. |
| 28. | a | \$0, use prospective application since this is a change in estimate. |
| 29. | d | $(\$300,000 \div 6) \times 3 = \$150,000$ $\$150,000 \div 5 = \$30,000$. |
| 30. | c | $\$135,000 - [(\$135,000 - \$9,000)/9 \times 2] = \$107,000$. |
| 31. | d | Not booked through I/S, booked through R/E. |
| *32. | d | $\$1,500 (o) + \$2,200 (o) + \$1,200 (o) - \$1,900 (u) = \$3,000 (o)$. |
| *33. | c | $\$2,200 (o) - \$1,200 (u) - \$1,900 (u) = \$900 (u)$. |
| *34. | c | $\$400 (o) + \$2,200 (o) - \$1,200 (u) - \$1,900 (u) = \$500 (u)$. |
| *35. | a | 2012 NI = $\$11,000 (u) + \$5,000 (u) = \$16,000 (u)$. 2012 RE = $\$5,000 (u)$ The $\$11,000(o)$ from 2011 is offset by the $\$11,000(u)$ in 2012. |
| *36. | a | $\$33,000 (u) + \$39,000 (u) + \$15,000 (u) + \$7,200 (u) = \$94,200 (u)$. |
| *37. | b | $\$39,000 (u) + \$21,000 (u) - \$15,000 (o) + \$15,000 (u) + \$7,200 (u)$ $= \$67,200 (u)$. |
| *38. | c | $\$39,000 (u) + \$7,200 (u) = \$46,200 (u)$. |

DERIVATIONS — CPA Adapted

| No. | Answer | Derivation |
|-----|--------|--|
| 39. | b | Conceptual. |
| 40. | c | $\$600,000 \times (1 - .4) = \$360,000.$ |
| 41. | a | $\$400,000 \times (1 - .3) = \$280,000.$ |
| 42. | c | Acc deprec to Dec 31/10 $\$330,000 \times 3/8 = \$123,750$ new annual rate $(\$330,000 - \$123,750 - \$30,000)/3 = \$58,750.$ Acc deprec at Dec 31/12 = $\$123,750 + (\$58,750 \times 2) = \$241,250.$ |
| 43. | b | Acc amort to Dec 31/11 $\$238,000 \times 3/15 = \$47,600$ new annual rate $[(\$238,000 - \$47,600)/7] = \$27,200$ patent at Dec 31/12 = $\$238,000 - \$47,600 - \$27,200 = \$163,200.$ |
| 44. | c | Conceptual. |
| 45. | a | $\$12,000 (u) + \$30,000 (u) - \$10,000 (o) = \$32,000 (u).$ |
| 46. | b | $\$100,000 \div 5 = \$20,000.$ |

EXERCISES

Ex 21-47—Overall objectives of accounting and disclosure standards for accounting changes.

What are the three main objectives of accounting and disclosure standards for accounting changes?

Solution Ex 21-47

1. To limit the types of changes permitted.
2. To standardize the reporting for each type of change.
3. To ensure that readers of accounting reports have the necessary information to understand the effects of such changes on the financial statements.

Ex. 21-48—Conditions for a change in accounting policy under IFRS and ASPE.

What conditions are allowed for a change in accounting policy to be acceptable?

Solution 21-48

Under IFRS, there are only two situations where a change in accounting policy is acceptable:

1. The change is required by a primary source of GAAP.
2. A voluntary change results in the financial statements presenting as reliable and more relevant information.

However, some voluntary changes are allowed under ASPE without having to meet the “reliable and more relevant” criterion. These include

- a. reporting for investments in subsidiaries
- b. reporting where the investor has significant influence or joint control
- c. accounting for defined benefit plans
- d. accounting for income taxes
- e. measuring a hybrid financial instrument that has both a liability and equity component (the equity component may be measured at zero).

Ex. 21-49—Matching accounting changes to situations.

The three types of accounting changes are:

Code

- a. Change in accounting policy.
- b. Change in accounting estimate.
- c. Error correction.

Instructions

Following are a series of situations. You are to enter a code letter to the left to indicate the type of change.

- ___ 1. Change due to debiting a new asset to an expense account.
- ___ 2. Change from FIFO to weighted average costing.
- ___ 3. Change due to failure to recognize unearned portion of revenue.
- ___ 4. Change in amortization period for an intangible asset.
- ___ 5. Change in the calculation of warranty liabilities.
- ___ 6. Change due to failure to recognize and accrue income.
- ___ 7. Change in residual value of a depreciable plant asset.
- ___ 8. Change from an unacceptable accounting policy to an acceptable accounting policy.
- ___ 9. Adoption of a new accounting standard.
- ___ 10. Change due to expensing prepaid assets.
- ___ 11. Change from straight-line to double declining-balance method of depreciation.
- ___ 12. Change in estimated service life of a depreciable plant asset.
- ___ 13. Change from one acceptable policy to another acceptable policy.
- ___ 14. Change due to understatement of inventory.
- ___ 15. Change in estimated net realizable value of accounts receivable.

Solution 21-49

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

Ex. 21-50—Matching disclosures to situations.

In the blank to the left of each statement, fill in the letter from the following list which best describes the treatment of the item on the financial statements of Stedman Inc for the current year ending December 31, 2012.

- a. Change in accounting policy requiring retrospective application
 b. Change in estimate
 c. Correction of error
 d. None of the above
- ___ 1. In 2012, the company changed its method of recognizing income from the completed-contract method to the percentage-of-completion method.
- ___ 2. At the end of 2012, an audit revealed that the corporation's allowance for doubtful accounts was too large and should be reduced to 2%. When the audit was performed in 2011, the allowance seemed appropriate.
- ___ 3. Depreciation on a truck, acquired in 2008, was understated because the service life had been overestimated. The understatement had been made in order to show higher net income in 2009 and 2010.
- ___ 4. The company switched from average cost to FIFO inventory costing during the current year.
- ___ 5. In 2012, Stedman decided to change from deferral and amortization of their defined benefit pension costs to the immediate recognition approach.
- ___ 6. During 2012, a long-term bond with a carrying value of \$3,600,000 was retired at a cost of \$4,100,000.
- ___ 7. After negotiations with Canada Revenue Agency, income taxes owing for 2011 were established at \$42,900. They were originally estimated to be \$28,600.
- ___ 8. In 2012, the company incurred interest expense of \$29,000 on a 20-year bond issue.
- ___ 9. In calculating the depreciation in 2010 for buildings, an error was made which overstated income in that year by \$75,000. The error was discovered in 2012.
- ___ 10. In 2012, the company changed its method of depreciating plant assets from the double declining-balance method to the straight-line method.

Solution 21-50

- | | | | | |
|------|------|------|------|-------|
| 1. a | 3. c | 5. a | 7. b | 9. c |
| 2. b | 4. a | 6. d | 8. d | 10. b |

Ex. 21-51—Retrospective application for accounting changes.

Discuss how retrospective application for accounting changes would be applied.

Solution 21-51

The general requirement for changes in accounting policy and the required method for error correction is that the change's cumulative effect be shown as an adjustment to the beginning retained earnings. Income statements of the affected prior periods presented for comparison purposes are restated to show, on a retrospective basis, the effects of the new accounting policy. When historical summaries are reported, the adjustments are reported in each prior year affected. When the effects on particular prior periods of a change in accounting policy is impractical to determine, the cumulative effect of the change (net of tax) is shown as an adjustment to the beginning retained earnings. Comparative financial statements of prior periods presented for comparison are not restated.

Ex. 21-52—Recognition of accounting changes or corrections.

For each of the following items, indicate the type of accounting change and how each is recognized in the accounting records in the current year.

- (a) Change from straight-line method of depreciation to double declining-balance
- (b) Change from the cash basis to the accrual basis of accounting
- (c) Change from FIFO to weighted average cost method for inventory valuation purposes
- (d) Change due to failure to record depreciation in a previous period
- (e) Change in the net realizable value of certain receivables

Solution 21-52

- (a) Change in accounting estimate; prospective application for current and future periods only.
- (b) Correction of an error; retrospective treatment; restatement of financial statements of all prior periods presented; adjustment of beginning retained earnings of the current period. If restatement is not practical, restatement may be omitted.
- (c) Change in accounting policy; retrospective treatment; adjustment of beginning retained earnings, restatement of financial statements of all prior periods presented. If restatement is not practical, restatement may be omitted.
- (d) Correction of an error; restatement of financial statements of the period affected; adjustment of beginning retained earnings of the first period after the error.
- (e) Change in accounting estimate; prospective application for current and future periods only.

Ex. 21-53—Change in estimate, voluntary change in accounting policy, correction of errors.

Give examples and discuss the accounting procedures and disclosure required for the following:

- (a) Change in estimate
- (b) Voluntary change in accounting policy
- (c) Correction of an error

Solution 21-53

- (a) Examples: collectability of receivables.
change in depreciation methods .
estimated lives or residual values.
warranty costs.

Accounting estimates will change as new events occur, as more experience is acquired, or new information is obtained. Changes in estimates are handled prospectively; that is in current and future periods. No restatement of previous financial statements is made. Financial statement disclosure includes the nature and amount of the change. Immaterial changes in estimates do not need to be disclosed.

- (b) Examples: change in the basis of inventory pricing.
change in the method of accounting for construction contracts.
change in the method of accounting for instalment sales.
change in the method of accounting for defined pension plans.

The financial statements need to be adjusted to reflect the change in all of the prior years presented, the current year, and the cumulative effect of the change on prior periods, net of tax, should be shown as an adjustment to beginning retained earnings in the current year. Disclosure should include the amount of the adjustment for the current period and each prior period presented including the effect on each financial statement line item and the per share amounts, the amount of the adjustment related to periods prior to those presented, either that the change has been applied retrospectively, or without restatement and an explanation why this was impractical, and justification of the change.

- (c) Examples: a change from an accounting policy that is not generally accepted to an accounting policy that is accepted.
mathematical mistakes.
changes in estimates that occur because the estimates are not made in good faith.
an oversight.
a misuse of facts.
misclassification of an asset as an expense or vice versa.

Corrections of errors are recorded in the year discovered, are corrected retrospectively with restatement of all prior years presented, and the beginning balance of retained earnings is adjusted. The nature of the error, the amount of the correction for each prior period presented, and the amount related to periods prior to those presented, and that the comparative information has been restated, must all be disclosed.

Ex. 21-54—Economic reasons for changing accounting policies.

Discuss possible economic reasons why companies may choose to change accounting policies.

Solution 21-54

Research has shown that choice of accounting policies often have economic consequences for business organizations. As a result, management may choose accounting policies based on the expected economic impact of the policy. Some of these reasons are political costs, capital structure, bonus payments, and smoothing of earnings.

Political costs: The management of large firms may seek policies that reduce their net income and therefore the likelihood that politicians and regulators will seek to increase taxes or restrictive regulations on them, or that unions will seek higher wage settlements.

Capital structure: Companies that have restrictive covenants included in their debt contracts may seek policies that make it less likely that they violate the terms of these agreements. Examples would be covenants that specify maximum debt to equity ratios or minimum working capital ratios.

Bonus payments: Many companies have compensation plans that include bonuses for management linked to income measures or stock option agreements. Management as a result may favour policies that increase net income and share prices.

Smoothing of earnings: Stock markets react negatively to volatility in earnings. As well, high earnings may attract the attention of politicians and regulators, and may be hard for management to repeat in subsequent years. For these reasons, management may choose policies that smooth earnings and reduce volatility.

Ex. 21-55—Effects of errors on financial statements.

Show how the following independent errors will affect net income on the income statement and the shareholders' equity section of the balance sheet using the symbol + (plus) for overstated, – (minus) for understated, and 0 (zero) for no effect.

| | 2011 | | 2012 | |
|--|-------------------------|----------------------|-------------------------|----------------------|
| | <u>Income Statement</u> | <u>Balance Sheet</u> | <u>Income Statement</u> | <u>Balance Sheet</u> |
| 1. Ending 2011 inventory overstated. | | | | |
| 2. Failure to accrue 2011 interest revenue. | | | | |
| 3. A capital expenditure for factory equipment (useful life, 5 years) was charged to expense in error in 2011. | | | | |
| 4. Failure to accrue 2011 wages. | | | | |
| 5. Ending inventory in 2011 understated. | | | | |
| 6. Overstated 2011 depreciation expense; 2012 expense correct. | | | | |

Solution 21-55

| | 2011 | | 2012 | |
|---|-------------------------|----------------------|-------------------------|----------------------|
| | <u>Income Statement</u> | <u>Balance Sheet</u> | <u>Income Statement</u> | <u>Balance Sheet</u> |
| 1. Ending 2011 inventory overstated. | + | + | – | 0 |
| 2. Failure to accrue 2011 interest revenue. | – | – | + | 0 |
| 3. A capital expenditure for factory equipment (useful life, 5 years) was charged to expense in 2011. | – | – | + | 0 |
| 4. Failure to accrue 2011 wages. | + | + | – | 0 |
| 5. Ending inventory in 2011 understated. | – | – | + | 0 |
| 6. Overstated 2011 depreciation expense; 2012 expense correct. | – | – | 0 | – |

21- 24 Test Bank for Intermediate Accounting, Ninth Canadian Edition

Ex. 21-56—Effects of errors on net income.

Tokyo Corp. began operations on January 1, 2011. Financial statements for 2011 and 2012 contained the following errors:

| | <u>Dec. 31, 2011</u> | <u>Dec. 31, 2012</u> |
|--------------------------|----------------------|----------------------|
| Ending inventory | \$20,000 too high | \$35,000 too high |
| Depreciation expense | 16,000 too low | — |
| Accumulated depreciation | 16,000 too low | 16,000 too low |
| Insurance expense | 14,000 too high | 10,000 too low |
| Prepaid insurance | 14,000 too low | |

In addition, on December 26, 2012, fully depreciated equipment was sold for \$19,000, but the sale was not recorded until 2013. No corrections have been made for any of the errors.

Instructions

Ignoring income taxes, show your calculation of the total effect of the errors on 2012 net income.

Solution 21-56

| | |
|------------------------------|-----------------|
| 2011 ending inventory | \$(20,000) |
| 2012 ending inventory | 35,000 |
| Insurance expense | 10,000 |
| Unrecorded gain | <u>(19,000)</u> |
| Overstatement of 2012 income | <u>\$ 6,000</u> |

Note: The error in depreciation expense has no effect on 2012 income. The error in prepaid insurance is related to the error in insurance expense.

***Ex. 21-57**—Non-counterbalancing error correction.

Canton Corp bought a truck on January 3, 2010 for \$175,000. It had a \$15,000 estimated residual value and a ten-year life. Canton uses straight-line depreciation. An expense account was debited in error on the purchase date, but this was not discovered until late 2012.

Instructions

Prepare the correcting entry or entries related to the truck for 2012. Ignore income tax effects.

Solution 21-57

Annual depreciation is $(\$175,000 - \$15,000)/10 = \$16,000$

| | | |
|---|---------|---------|
| Truck | 175,000 | |
| Retained Earnings | | 143,000 |
| Accumulated Depreciation (2 × \$16,000) | | 32,000 |
| Depreciation Expense | 16,000 | |
| Accumulated Depreciation | | 16,000 |

PROBLEMS

Pr. 21-58—Correction of errors.

Rangoon Inc reported net incomes for a three-year period as follows:

2010, \$62,000; 2011, \$63,000; 2012, \$60,000.

In reviewing the accounts in 2013 (after the books for the prior year had been closed), you find that the following errors have been made:

| | <u>2010</u> | <u>2011</u> | <u>2012</u> |
|---|-------------|-------------|-------------|
| Overstatement of ending inventory | \$7,000 | \$8,500 | \$4,000 |
| Understatement of accrued advertising expense | 1,100 | 2,000 | 1,200 |

Instructions

- (a) Calculate corrected net incomes for 2010, 2011, and 2012.
- (b) Prepare the entry to bring the books of the company up to date in 2013. Ignore income taxes.

Solution 21-58

| | | | | |
|--|--|-----------------|-----------------|-----------------|
| (a) | | <u>2010</u> | <u>2011</u> | <u>2012</u> |
| Net income (unadjusted) | | \$62,000 | \$63,000 | \$60,000 |
| Overstatement of ending inventory—2010 | | (7,000) | 7,000 | |
| Overstatement of ending inventory—2011 | | | (8,500) | 8,500 |
| Overstatement of ending inventory—2012 | | | | (4,000) |
| Understatement of accrued advertising expense—2010 | | (1,100) | 1,100 | |
| Understatement of accrued advertising expense—2011 | | | (2,000) | 2,000 |
| Understatement of accrued advertising expense—2012 | | | | (1,200) |
| Net income (corrected) | | <u>\$53,900</u> | <u>\$60,600</u> | <u>\$65,300</u> |
| | | | | |
| (b) Retained Earnings | | | 5,200 | |
| Advertising Expense | | | | 1,200 |
| Inventory | | | | 4,000 |

Pr. 21-59—Accounting for accounting changes and error corrections.

Manila Corp reported net incomes for a three-year period as follows:

| <u>2012</u> | <u>2011</u> | <u>2010</u> |
|-------------|-------------|-------------|
| \$240,000 | \$225,000 | \$180,000 |

During the 2012 year-end audit, the following items come to your attention:

- Manila bought a truck on January 1, 2009 for \$98,000 cash, with an \$8,000 estimated residual value and a six-year life. The company debited an expense account for the entire cost of the asset. Manila uses straight-line depreciation for all vehicles.
- During 2012, Manila changed from straight-line depreciation for its cement plant to double declining balance. The following calculations present depreciation on both bases:

| | <u>2012</u> | <u>2011</u> | <u>2010</u> |
|--------------------------|-------------|-------------|-------------|
| Straight-line | \$18,000 | \$18,000 | \$18,000 |
| Double declining balance | 23,100 | 30,000 | 36,000 |

The net income for 2012 was calculated using the double declining balance method.

- In reviewing its provision for uncollectible accounts during 2012, the corporation has determined that 1% is the appropriate amount of bad debt expense to be charged to operations. The company had used 1/2 of 1% as its rate in 2011 and 2010 when the expense had been \$9,000 and \$6,000, respectively. Manila recorded bad debt expense using the new rate for 2012. If they had used the old rate, they would have recorded \$3,000 less bad debt expense on December 31, 2012.

Instructions

- Prepare the general journal entry required to correct the books for the item 1 situation (only) of this problem, assuming that the books have not been closed for 2012.
- Present comparative income statement data for the years 2010 to 2012 in accordance with generally accepted accounting principles starting with income before cumulative effect of any accounting changes. Ignore all income tax effects.
- Assume that the beginning retained earnings balance (unadjusted) for 2010 was \$630,000. At what adjusted amount should the beginning retained earnings balance for 2010 be shown, assuming that comparative financial statements were prepared?
- Assume that the beginning retained earnings balance (unadjusted) for 2012 is \$900,000 and that comparative financial statements are not prepared. At what adjusted amount should this beginning retained earnings balance be shown?

Solution 21-59

Annual depreciation would be $(\$98,000 - \$8,000)/6 = \$15,000$

| | | |
|---|--------|--------|
| (a) Truck | 98,000 | |
| Depreciation Expense (2012 only)..... | 15,000 | |
| Accumulated Depreciation (4 years, 2009-12) | | 60,000 |
| Retained Earnings | | 53,000 |

| | | | |
|---|------------------|------------------|------------------|
| (b) | <u>2012</u> | <u>2011</u> | <u>2010</u> |
| Income before cumulative effect of of error correction | \$240,000 | \$225,000 | \$180,000 |
| Depreciation of truck | <u>(15,000)</u> | <u>(15,000)</u> | <u>(15,000)</u> |
| | <u>\$225,000</u> | <u>\$210,000</u> | <u>\$165,000</u> |

Note items 2 and 3 are considered changes in estimates, and are accounted for prospectively.

| | |
|--|------------------|
| (c) Retained earnings (unadjusted) | \$630,000 |
| Correction of 2009 error $(\$98,000 - \$15,000)$ | <u>83,000</u> |
| Retained earnings (adjusted) | <u>\$713,000</u> |
| (d) Retained earnings (unadjusted) | \$900,000 |
| Correction of error $(\$98,000 - \$45,000)$ | <u>53,000</u> |
| Retained earnings (adjusted) | <u>\$953,000</u> |

***Pr. 21-60—Error corrections and adjustments.**

The controller for Saigon Corporation is concerned about certain business transactions that the company experienced during 2012. The controller, after discussing these matters with various individuals, has come to you for advice. The transactions at issue are presented below.

- The company has decided to switch from the direct write-off method for accounting for bad debts to the percentage-of-sales approach. Assume that Saigon has recognized bad debt expense as the receivables have actually become uncollectible in the following way:

| | | |
|-----------------|-------------|-------------|
| | <u>2011</u> | <u>2012</u> |
| From 2009 sales | 10,600 | 4,000 |
| From 2010 sales | | 15,000 |

The controller estimates that an additional \$21,800 in bad debts will be written off in 2013: \$3,800 applicable to 2011 sales and \$18,000 to 2012 sales.

- Inventory has been shipped on consignment. These transactions have been recorded as ordinary sales and billed as such (on account). At December 31, 2012, inventory billed and in the hands of consignees amounted to \$160,000. The percentage markup on selling price is 20%. Assume that the consigned inventory is sold the following year. The company uses the perpetual inventory system.

Pr. 21-60 (Continued)

3. During 2012, Saigon sold \$300,000 worth of goods on the instalment basis. The cost of sales associated with these instalment sales is \$225,000. The company inadvertently handled these sales and related costs as part of their regular sales transactions. Cash of \$86,000, including a down payment of \$30,000, was collected on these instalment sales during 2012. Due to questionable collectability, the instalment method was considered appropriate.

Instructions

- (a) Assume that Saigon Corporation reported pretax income of \$500,000 for 2012. Present a schedule showing the corrected pretax income after the above transactions are taken into account. Ignore income tax effects.
- (b) Prepare the correcting journal entries required at December 31, 2012, assuming that the books have been closed.

Solution 21-60

| | | | |
|-----|---|-----------------|------------------|
| (a) | Reported net income | | \$500,000 |
| | 1. Additional charge for bad debts | | |
| | 2009 debts written off in 2012 (add back) | \$ 4,000 | |
| | 2012 debts to be written off in 2013 (deduct) | <u>(18,000)</u> | (14,000) |
| | 2. Consignment—(20% × \$160,000) | | (32,000) |
| | 3. Gross profit—Recognized | 75,000 | |
| | Should be 25% × \$86,000 | <u>(21,500)</u> | <u>(53,500)</u> |
| | Corrected income | | <u>\$400,500</u> |
| (b) | 1. Retained Earnings | 21,800 | |
| | Allowance for Doubtful Accounts | | 21,800 |
| | 2. Consignment Inventory | 128,000 | |
| | Retained Earnings | 32,000 | |
| | Accounts Receivable | | 160,000 |
| | 3. Retained Earnings | 53,500 | |
| | Deferred Gross Profit | | 53,500 |

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CHAPTER 22

STATEMENT OF CASH FLOWS

MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|--|
| c | 1. | Primary purpose of the statement of cash flows. |
| b | 2. | Assessment of information in the statement of cash flows. |
| d | 3. | Cash equivalent elements. |
| c | 4. | IFRS and ASPE requirements. |
| d | 5. | Significant non-cash transactions. |
| a | 6. | Major source of cash for a successful company. |
| b | 7. | Reporting of inventory increase on the statement of cash flows. |
| d | 8. | Cash flow effects of a stock dividend. |
| c | 9. | Item(s) to include in investing activities. |
| b | 10. | Adjustments to reconcile net income to cash from operating activities. |
| d | 11. | Adjustment to net income for inventory increase. |
| c | 12. | Adjustments under the direct method and indirect method. |
| c | 13. | Effect of decrease in accounts payable. |
| d | 14. | Adjustment for equity method investment income. |
| a | 15. | Adjustment for an increase in accounts payable. |
| a | 16. | Adjustment for a decrease in prepaid insurance. |
| c | 17. | Additional cash invested by a sole proprietor. |
| d | 18. | Net loss under direct method. |
| b | 19. | Free cash flow. |
| d | 20. | Disclosures under IFRS and ASPE. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|---|
| b | 21. | Calculate net income for year. |
| a | 22. | Adjust net income for bad debt expense. |
| c | 23. | Cash flow effects of selling plant assets at a gain. |
| a | 24. | Cash flow effects of selling equipment at a loss. |
| b | 25. | Cash flow effects of depreciation expense and purchase of assets. |
| c | 26. | Calculate depreciation expense for year. |
| b | 27. | Calculate depreciation expense for year. |
| a | 28. | Calculate equipment purchased during year. |
| c | 29. | Calculate cost of equipment sold. |
| a | 30. | Calculate book value of assets at end of year. |
| b | 31. | Calculate ending balance of accounts payable. |
| c | 32. | Calculate ending balance of retained earnings. |
| d | 33. | Calculate ending balance of common shares account. |
| b | 34. | Calculate amount of a cash dividend. |
| d | 35. | Reporting a stock dividend. |
| c | 36. | Reporting insurance proceeds. |

MULTIPLE CHOICE—Computational (continued)

| Answer | No. | Description |
|--------|-----|--|
| a | 37. | Calculate cash provided by operating activities using direct method. |
| b | 38. | Calculate cash provided by (used in) investing activities. |
| c | 39. | Calculate cash provided by financing activities. |
| c | 40. | Calculate cash provided by operating activities. |
| b | 41. | Calculate cash provided by (used in) investing activities. |
| c | 42. | Calculate cash provided by (used in) financing activities. |
| a | 43. | Calculate cash provided by investing activities. |
| d | 44. | Calculate cash provided by (used in) financing activities. |
| d | 45. | Calculate cash provided by operating activities. |
| b | 46. | Calculate cash provided by operating activities. |
| a | 47. | Calculate cash provided by operating activities. |
| d | 48. | Calculate cash received from customers. |
| a | 49. | Calculate cash paid for income taxes. |
| b | 50. | Calculate cash provided by (used in) investing activities. |
| c | 51. | Calculate cash provided by (used in) financing activities. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|--|
| c | 52. | Calculate depreciation expense for year. |
| b | 53. | Calculate cash paid for insurance (direct method). |
| a | 54. | Calculate cash provided by investing activities. |
| c | 55. | Calculate cash provided by financing activities. |
| c | 56. | Calculate cash used in investing activities. |
| b | 57. | Calculate cash provided by (used in) financing activities. |
| b | 58. | Calculate cash provided by investing activities. |
| b | 59. | Calculate cash provided by financing activities. |
| a | 60. | Calculate cash used in investing activities. |
| d | 61. | Calculate cash provided by financing activities. |

EXERCISES

| Item | Description |
|--------|---|
| E22-62 | Direct and indirect methods. |
| E22-63 | Choices of cash flow categories under IFRS. |
| E22-64 | Classification of cash flows. |
| E22-65 | Classification of cash flows and transactions. |
| E22-66 | Effects of transactions on statement of cash flows (indirect method). |
| E22-67 | Effects of transactions on statement of cash flows. |
| E22-68 | Effects of transactions on statement of cash flows. |
| E22-69 | Calculations for statement of cash flows. |
| E22-70 | Calculations for statement of cash flows. |
| E22-71 | Cash flows from operating activities (indirect and direct methods). |

EXERCISES (Continued)

| Item | Description |
|-------------|---|
| E22-72 | Statement of cash flows (indirect method). |
| E22-73 | Preparation of statement of cash flows (format provided). |

PROBLEMS

| Item | Description |
|-------------|--|
| P22-74 | Direct and indirect methods compared. |
| P22-75 | Statement of cash flows (indirect method). |
| P22-76 | Statement of cash flows (direct method). |
| P22-77 | Complex statement of cash flows (indirect method). |

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MULTIPLE CHOICE—Conceptual

1. The *primary* purpose of the statement of cash flows is to provide information
 - a. about an entity's operating, investing, and financing activities during a period.
 - b. that is useful in assessing cash flow prospects.
 - c. about an entity's cash receipts and cash payments during a period.
 - d. about an entity's ability to meet its obligations, its ability to pay dividends, and its needs for external financing.

2. The information in a statement of cash flows enables stakeholders to assess the
 - a. amounts, timing and certainty of future cash flows.
 - b. liquidity and solvency of an entity.
 - c. change in working capital during the period.
 - d. reason(s) for the difference between net income and cash flows from financing activities.

3. Cash equivalents include
 - a. treasury bills, equity investments and long term bonds.
 - b. non-equity investments with short maturities and bank overdrafts repayable on demand.
 - c. treasury bills, commercial paper and all equity investments.
 - d. treasury bills, commercial paper, and money market funds purchased with excess cash.

4. The statement of cash flows is required to be included
 - a. only for financial statements prepared under IFRS.
 - b. only for financial statements prepared under ASPE (PE GAAP).
 - c. for both financial statements prepared under IFRS and under ASPE (PE GAAP).
 - d. for financial statements prepared under IFRS, but is optional under ASPE (PE GAAP).

5. Which of the following is *not* a significant non-cash transaction?
 - a. Capital (finance) lease obligations.
 - b. Conversion of preferred shares to common shares.
 - c. Exchange of non-monetary assets.
 - d. Purchasing a building with a 10% cash down payment and mortgaging the balance.

6. A successful company's major source of cash should be
 - a. operating activities.
 - b. investing activities.
 - c. financing activities.
 - d. both operating activities and investing activities.

7. Using the indirect method, an increase in inventory would be reported in a statement of cash flows as a(n)
 - a. addition to net income in calculating cash flows from operating activities.
 - b. deduction from net income in calculating cash flows from operating activities.
 - c. cash flow from investing activities.
 - d. cash flow from financing activities.

8. A statement of cash flows generally would *not* include the effects of
- common shares issued at an amount greater than par value.
 - the purchase of treasury shares.
 - cash dividends paid.
 - stock dividends declared and issued.
9. In a statement of cash flows, which of the following would be reported in the cash flows from investing activities section?
- Issuance of common shares in exchange for a factory building.
 - Stock dividends received.
 - Development costs incurred (intangible asset).
 - Declaration of cash dividends.
10. When preparing a statement of cash flows (indirect method), which of the following is *not* an adjustment to reconcile net income to cash flows from operating activities?
- An increase in prepaid expenses.
 - An increase in bonds payable.
 - A decrease in income taxes payable.
 - Depreciation expense.
11. When preparing a statement of cash flows (indirect method), an increase in ending inventory over beginning inventory will result in an adjustment to net income because
- cash was increased while cost of goods sold was decreased.
 - acquisition of inventory is an investment activity.
 - inventory purchased during the period was less than inventory sold, resulting in a net cash increase.
 - cost of goods sold on an accrual basis is lower than on a cash basis.
12. When preparing a statement of cash flows, a decrease in accounts receivable during a period would cause which one of the following adjustments in calculating cash flows from operating activities?
- | | <u>Direct Method</u> | <u>Indirect Method</u> |
|----|----------------------|------------------------|
| a. | Increase | Decrease |
| b. | Decrease | Increase |
| c. | Increase | Increase |
| d. | Decrease | Decrease |
13. In calculating cash flows from operating activities, a decrease in accounts payable during a period
- means that accrual basis income is less than cash basis income.
 - requires an addition to net income under the indirect method.
 - requires an increase to cost of goods sold under the direct method.
 - requires a decrease to cost of goods sold under the direct method.

14. Oyster Corp reports its income from investments by the equity method and recognized income of \$25,000 from its investment in Pearl Ltd during the current year, even though no dividends were declared or paid by Pearl during the year. On Oyster's statement of cash flows (indirect method), the \$25,000 should
- not be shown.
 - be shown as cash inflow from investing activities.
 - be shown as cash outflow from financing activities.
 - be shown as a deduction from net income in the cash flows from operating activities section.

15. When preparing a statement of cash flows, an increase in accounts payable during a period would require which of the following adjustments in determining cash flows from operating activities?

| | <u>Indirect Method</u> | <u>Direct Method</u> |
|----|------------------------|----------------------|
| a. | Increase | Decrease |
| b. | Decrease | Increase |
| c. | Increase | Increase |
| d. | Decrease | Decrease |

16. When preparing a statement of cash flows, a decrease in prepaid insurance during a period would require which of the following adjustments in determining cash flows from operating activities?

| | <u>Indirect Method</u> | <u>Direct Method</u> |
|----|------------------------|----------------------|
| a. | Increase | Decrease |
| b. | Decrease | Increase |
| c. | Increase | Increase |
| d. | Decrease | Decrease |

17. On a statement of cash flows, additional cash invested by a sole proprietor would be disclosed in
- operating activities.
 - investing activities.
 - financing activities.
 - both operating and financing activities.

18. When preparing a statement of cash flows using the direct method, a net loss reported on the income statement will
- automatically result in a cash outflow from operating activities.
 - be included in financing activities.
 - be disclosed as a note to the statement of cash flows.
 - not be included on the statement at all

19. Free cash flow is
- the cash flows from operating activities reported on the statement of cash flows.
 - the discretionary cash that an entity has available for increasing capacity, acquiring new investments, paying dividends, and retiring debt.
 - the discretionary cash that an entity has available for increasing capacity, selling off investments, paying dividends, and incurring new debt.
 - the cash flows from operating activities reported on the statement of cash flows increased by the capital expenditures that are needed to sustain the current level of operations.
20. With regard to disclosures required under IFRS and ASPE, which of the following statements is *incorrect*?
- IFRS requires separate disclosure of taxes on income.
 - IFRS requires separate disclosure of interest received and paid and dividends received and paid.
 - ASPE does not require reporting and explanation of the amount of cash and cash equivalents that have restrictions on their use.
 - ASPE does not require separate disclosure of taxes on income.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | c | 4. | c | 7. | b | 10. | b | 13. | c | 16. | a | 19. | b |
| 2. | b | 5. | d | 8. | d | 11. | d | 14. | d | 17. | c | 20. | d |
| 3. | d | 6. | a | 9. | c | 12. | c | 15. | a | 18. | d | | |

MULTIPLE CHOICE—Computational

21. On Victor Ltd's statement of cash flows (indirect method) for calendar 2012, cash flows from operating activities were reported at \$77,000. The statement included the following items: depreciation on plant assets of \$30,000; impairment of goodwill of \$5,000; and cash dividends paid of \$36,000. Based only on the information given above, Victor's net income for 2012 was
- \$ 6,000.
 - \$42,000.
 - \$77,000.
 - \$78,000.
22. During 2012, Hugo Corporation, which uses the allowance method of accounting for doubtful accounts, recorded bad debts expense of \$10,000. As well, the corporation wrote off uncollectible accounts receivable of \$4,000. As a result of these transactions, their cash flows from operating activities would be calculated (indirect method) by adjusting net income with a
- \$10,000 increase.
 - \$4,000 increase.
 - \$6,000 increase.
 - \$6,000 decrease.
23. Valjean Corp sold some of its plant assets during calendar 2012 for \$21,000 cash. The original cost of the assets was \$150,000, and the accumulated depreciation to the date of sale was \$140,000. This transaction should be shown on Valjean's 2012 statement of cash flows (indirect method) as a(n)
- deduction from net income of \$11,000 and a \$10,000 cash inflow from financing activities.
 - addition to net income of \$11,000 and a \$21,000 cash inflow from investing activities.
 - deduction from net income of \$11,000 and a \$21,000 cash inflow from investing activities.
 - addition to net income of \$21,000.
24. Fantine Ltd sold equipment during calendar 2012 for \$38,000 cash. The original cost of the equipment was \$92,000, and the accumulated depreciation to the date of sale was \$49,000. This transaction should be shown on Fantine's 2012 statement of cash flows (indirect method) as a(n)
- addition to net income of \$5,000 and a \$38,000 cash inflow from investing activities.
 - deduction from net income of \$5,000 and a \$43,000 cash inflow from investing activities.
 - deduction from net income of \$5,000 and a \$38,000 cash inflow from investing activities.
 - addition to net income of \$5,000 and a \$38,000 cash inflow from financing activities.

25. An analysis of the machinery accounts of Cosette Ltd during 2012 follows:

| | <u>Machinery</u> | <u>Accumulated Depreciation</u> | <u>Book Value</u> |
|--|------------------|-------------------------------------|-----------------------|
| Balance, Jan 1, 2012 | \$500,000 | \$125,000 | \$375,000 |
| Purchases of new machinery in 2012 for cash | 200,000 | — | 200,000 |
| 2012 Depreciation | — | <u>100,000</u> | <u>(100,000)</u> |
| Balance, Dec 31, 2012 | <u>\$700,000</u> | <u>\$225,000</u> | <u>\$475,000</u> |

The information concerning Cosette's machinery accounts should be shown in their statement of cash flows (indirect method) for the year ended December 31, 2012, as a(n)

- subtraction from net income of \$100,000 and a \$200,000 decrease in cash flows from financing activities.
 - addition to net income of \$100,000 and a \$200,000 decrease in cash flows from investing activities.
 - \$100,000 increase in cash flows from financing activities.
 - \$200,000 decrease in cash flows from investing activities.
26. During calendar 2012, Javert Inc sold equipment for \$84,000. The equipment had cost \$126,000 and had a book value of \$72,000 at the time of sale. Accumulated Depreciation—Equipment was \$344,000 at Dec 31, 2011 and \$368,000 at Dec 31, 2012. Therefore, Depreciation Expense (Equipment) for 2012 was
- \$30,000.
 - \$48,000.
 - \$78,000.
 - \$96,000.

Use the following information for questions 27 and 28.

During calendar 2012, Madeleine Corp sold equipment for \$70,000. The equipment had cost \$100,000 and had a book value of \$52,000 at the time of sale. Data from their comparative balance sheets are:

| | <u>Dec 31/12</u> | <u>Dec 31/11</u> |
|--------------------------|------------------|------------------|
| Equipment | \$720,000 | \$650,000 |
| Accumulated Depreciation | 210,000 | 190,000 |

27. Depreciation expense for 2012 was
- \$86,000.
 - \$68,000.
 - \$18,000.
 - \$12,000.
28. Equipment purchased during 2012 was
- \$170,000.
 - \$100,000.
 - \$70,000.
 - \$30,000.

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Use the following information for questions 29 through 33.

Financial statements for Myriel Corp are presented below:

| Myriel Corp Balance Sheet January 1, 2012 | | | |
|--|------------------|-------------------------------|------------------|
| <u>Assets</u> | | <u>Liabilities and Equity</u> | |
| Cash | \$160,000 | Accounts payable | \$ 76,000 |
| Accounts receivable | 144,000 | | |
| Buildings and equipment | 600,000 | | |
| Accumulated depreciation— buildings and equipment | (200,000) | Common shares | 460,000 |
| Patents | <u>72,000</u> | Retained earnings | <u>240,000</u> |
| | <u>\$776,000</u> | | <u>\$776,000</u> |

| Myriel Corp Statement of Cash Flows (indirect method) Year ended December 31, 2012 | | | |
|--|------------------|--|------------------|
| Cash provided by operating activities | | | |
| Net income | | | \$200,000 |
| Add back non-cash expenses: | | | |
| Increase in accounts receivable | \$ (64,000) | | |
| Increase in accounts payable | 32,000 | | |
| Depreciation expense | 60,000 | | |
| Gain on sale of equipment | (24,000) | | |
| Amortization of patents | <u>8,000</u> | | <u>12,000</u> |
| Cash provided by operating activities | | | 212,000 |
| Cash provided by (used in) investing activities | | | |
| Sale of equipment | 48,000 | | |
| Purchase of land | (100,000) | | |
| Purchase of buildings and equipment | <u>(192,000)</u> | | |
| Cash used by investing activities | | | (244,000) |
| Cash provided by financing activities | | | |
| Payment of cash dividends | (60,000) | | |
| Issuance of common shares | <u>160,000</u> | | |
| Cash provided by financing activities | | | <u>100,000</u> |
| Net increase in cash | | | 68,000 |
| Cash, January 1, 2012 | | | <u>160,000</u> |
| Cash, December 31, 2012 | | | <u>\$228,000</u> |

Total assets on the December 31, 2012 balance sheet were \$1,108,000. Accumulated depreciation on the equipment sold was \$56,000.

29. When the equipment was sold, the Buildings and Equipment account was credited with
- \$ 48,000.
 - \$ 56,000.
 - \$ 80,000.
 - \$104,000.
30. The book value of the buildings and equipment at December 31, 2012 was
- \$508,000.
 - \$520,000.
 - \$588,000.
 - \$712,000.
31. The balance in the Accounts Payable account at December 31, 2012 was
- \$148,000.
 - \$108,000.
 - \$ 44,000.
 - \$ 32,000.
32. The balance in the Retained Earnings account at December 31, 2012 was
- \$500,000.
 - \$440,000.
 - \$380,000.
 - \$180,000.
33. The balance in the Common Shares account at December 31, 2012 was
- \$260,000.
 - \$400,000.
 - \$460,000.
 - \$620,000.

Use the following information for questions 34 and 35.

Marius Ltd reported retained earnings at December 31, 2011 of \$540,000, and at December 31, 2012, \$436,000. Net income for calendar 2012 was \$375,000. During 2012, a stock dividend was declared and distributed, which increased the common shares account by \$233,000. As well, a cash dividend was declared and paid during the year.

34. The amount of the cash dividend was
- \$186,000.
 - \$246,000.
 - \$329,000.
 - \$479,000.
35. The stock dividend should be reported on the statement of cash flows as
- an outflow from operating activities of \$233,000.
 - an outflow from financing activities of \$233,000.
 - an outflow from investing activities of \$233,000.
 - Stock dividends are not shown on a statement of cash flows.

36. A fire damaged Eponine Corp's office building. The company received \$300,000 as a settlement from their insurance company, which was \$90,000 less than the book value of the building. Their income tax rate is 30%. On the statement of cash flows (indirect method), the receipt from the insurance company should
- be shown as an addition to net income of \$210,000.
 - be shown as an inflow from investing activities of \$210,000.
 - be shown as an inflow from investing activities of \$300,000.
 - not be shown.

37. Gervais Corp, a service organization, reports the following for calendar 2012:

| | |
|---|-----------|
| Service revenue | \$350,000 |
| Cash received from customers | 300,000 |
| Interest payments (on long term debt) | 8,000 |
| Salaries and wages paid to employees | 105,000 |
| Purchase of new equipment for cash | 160,000 |
| Cash dividends paid | 20,000 |
| Payments for office rental & general expenses | 140,000 |
| Income taxes paid | 15,000 |
| Net income | 45,000 |

Based on the above information, and using the direct method, the cash provided by (used in) operating activities to be reported on Gervais' 2012 statement of cash flows is

- \$ 32,000.
- \$ 40,000.
- \$ 70,000.
- \$(90,000).

Use the following information for questions 38 and 39.

Gavroche Corp provided the following information for calendar 2012:

| | |
|--|-----------|
| Proceeds from issuing bonds | \$200,000 |
| Purchase of inventories | 380,000 |
| Purchase of treasury shares | 60,000 |
| Purchase of long term investment | 140,000 |
| Dividends paid to preferred shareholders | 40,000 |
| Proceeds from issuing preferred shares | 160,000 |
| Proceeds from sale of equipment | 20,000 |

38. The cash provided by (used in) investing activities during 2012 is
- \$ 20,000.
 - \$(120,000).
 - \$(220,000).
 - \$(500,000).

39. The cash provided by financing activities during 2012 is
- \$360,000.
 - \$320,000.
 - \$260,000.
 - \$220,000.

Use the following information for questions 40 through 42.

The balance sheet data of Bristol Corp at the ends of 2012 and 2011 follow:

| | <u>2012</u> | <u>2011</u> |
|--|------------------|------------------|
| Cash | \$ 75,000 | \$105,000 |
| Accounts receivable (net) | 180,000 | 135,000 |
| Merchandise inventory | 210,000 | 135,000 |
| Prepaid expenses | 30,000 | 75,000 |
| Land | 270,000 | 120,000 |
| Buildings and equipment | 270,000 | 225,000 |
| Accumulated depreciation—buildings and equipment | (54,000) | (24,000) |
| Totals | <u>\$981,000</u> | <u>\$771,000</u> |
| Accounts payable | \$204,000 | \$165,000 |
| Salaries payable | 36,000 | 54,000 |
| Notes payable—long-term | 90,000 | 120,000 |
| Mortgage payable | 627,000 | 477,000 |
| Common shares | 24,000 | (45,000) |
| Retained earnings (deficit) | <u>\$981,000</u> | <u>\$771,000</u> |

During 2012, land was acquired in exchange for common shares with a market value of \$150,000. All equipment purchased was for cash. Equipment costing \$15,000 was sold for \$6,000 cash; book value of the equipment at the time of sale was \$12,000, and the loss was included in net income. Cash dividends of \$30,000 were declared and paid during the year. In the statement of cash flows (indirect method) for calendar 2012

40. The cash provided by operating activities was
- \$72,000.
 - \$78,000.
 - \$84,000.
 - \$99,000.
41. The cash provided by (used in) investing activities was
- \$ 39,000.
 - \$ (54,000).
 - \$ (60,000).
 - \$(204,000).

42. The cash provided by (used in) financing activities was
- a. \$ 90,000.
 - b. \$(30,000).
 - c. \$(60,000).
 - d. \$ 0.

43. Selected information from Edinburgh Ltd's 2012 accounting records is as follows:
- | | |
|---|-----------|
| Proceeds from sale of land | \$200,000 |
| Proceeds from long-term borrowings | 500,000 |
| Purchase of plant assets | 180,000 |
| Purchase of inventories | 850,000 |
| Proceeds from issuance of common shares | 300,000 |

Based on the above information, the cash provided by investing activities for the year ended December 31, 2012 is

- a. \$ 20,000
 - b. \$200,000.
 - c. \$320,000.
 - d. \$500,000.
44. Selected information from Glasgow Corp's 2012 accounting records is as follows:

| | |
|---|------------|
| Proceeds from issuance of common shares | \$ 400,000 |
| Proceeds from issuance of bonds | 1,200,000 |
| Cash dividends paid on common shares | 160,000 |
| Cash dividends paid on preferred shares | 60,000 |
| Purchase of treasury shares | 120,000 |
| Sale of shares to officers and employees not included above | 100,000 |

Based on the above information, the cash provided by (used in) financing activities for the year ended December 31, 2012 is

- a. \$ 60,000.
- b. \$ 160,000.
- c. \$(220,000).
- d. \$1,360,000.

45. Dublin Incorporated reported net income for 2012 of \$3,500,000. Additional information follows:

| | |
|------------------------------|-----------|
| Impairment of goodwill | \$ 30,000 |
| Depreciation on plant assets | 1,100,000 |
| Long-term debt: | |
| Bond premium amortized | 45,000 |
| Interest paid | 600,000 |
| Bad debts expense | 75,000 |

Based on the above information, the cash provided by operating activities (indirect method) for the year ended December 31, 2012 is

- a. \$4,750,000.
 b. \$4,730,000.
 c. \$4,715,000.
 d. \$4,660,000.
46. Cardiff Corp reported net income for the calendar year 2012 of \$600,000. Additional information follows:

| | |
|---|-----------|
| Depreciation on property, plant and equipment | \$300,000 |
| Bad debts expense | 110,000 |
| Purchase of equipment | 50,000 |
| Interest paid on long-term bonds | 30,000 |
| Loss on sale of equipment | 170,000 |

Based only on the information given above, the cash provided by operating activities (indirect method) for the year ended December 31, 2012 is

- a. \$1,130,000.
 b. \$1,180,000.
 c. \$1,210,000.
 d. \$1,260,000.

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Use the following information for questions 47 through 51.

Portsmouth Manufacturing Ltd has recently decided to go public and has hired you as an independent accountant. They wish to adhere to IFRS and know that they must prepare a statement of cash flows. Their financial statements for 2012 and 2011 are provided below.

BALANCE SHEETS

| | <u>Dec 31/12</u> | <u>Dec 31/11</u> |
|-------------------------------|------------------|------------------|
| Cash | \$ 51,000 | \$ 24,000 |
| Accounts receivable | 45,000 | 27,000 |
| Merchandise inventory | 48,000 | 60,000 |
| Property, plant and equipment | \$76,000 | \$120,000 |
| Less accumulated depreciation | <u>(40,000)</u> | <u>(38,000)</u> |
| | <u>\$180,000</u> | <u>\$193,000</u> |
| | | |
| Accounts payable | \$ 22,000 | \$ 12,000 |
| Income taxes payable | 44,000 | 49,000 |
| Bonds payable | 45,000 | 75,000 |
| Common shares | 27,000 | 27,000 |
| Retained earnings | <u>42,000</u> | <u>30,000</u> |
| | <u>\$180,000</u> | <u>\$193,000</u> |

INCOME STATEMENT
Year ended December 31, 2012

| | |
|-------------------------------------|------------------|
| Sales | \$1,050,000 |
| Cost of sales | <u>894,000</u> |
| Gross profit | 156,000 |
| Selling and administrative expenses | <u>99,000</u> |
| Income from operations | 57,000 |
| Interest expense | <u>9,000</u> |
| Income before taxes | 48,000 |
| Income taxes | <u>12,000</u> |
| Net income | <u>\$ 36,000</u> |

The following additional data were provided for calendar 2012:

1. Dividends declared and paid were \$24,000.
2. Equipment was sold for \$30,000. This equipment originally cost \$44,000, and had a book value of \$36,000 at the time of sale. The loss on sale was included in "selling and administrative expenses," as was the depreciation expense for the year.
3. Bonds were retired during the year at par.

For a statement of cash flows for calendar 2012:

47. Using the indirect method, the cash provided by operating activities is
- a. \$51,000.
 - b. \$36,000.
 - c. \$30,000.
 - d. \$25,000.

48. The cash received from customers is
 a. \$1,068,000.
 b. \$1,055,000.
 c. \$1,050,000.
 d. \$1,032,000.
49. The cash paid for income taxes is
 a. \$17,000.
 b. \$12,000.
 c. \$ 7,000.
 d. \$ 5,000.
50. The cash provided by (used in) investing activities is
 a. \$ 6,000.
 b. \$ 30,000.
 c. \$(36,000).
 d. \$(44,000).
51. The cash provided by (used in) by financing activities is
 a. \$ 6,000.
 b. \$ 24,000.
 c. \$(54,000).
 d. \$(30,000).

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 21. | b | 26. | c | 31. | b | 36. | c | 41. | b | 46. | b | 51. | c |
| 22. | a | 27. | b | 32. | c | 37. | a | 42. | c | 47. | a | | |
| 23. | c | 28. | a | 33. | d | 38. | b | 43. | a | 48. | d | | |
| 24. | a | 29. | c | 34. | b | 39. | c | 44. | d | 49. | a | | |
| 25. | b | 30. | a | 35. | d | 40. | c | 45. | d | 50. | b | | |

MULTIPLE CHOICE—CPA Adapted

52. Algonquin Corp.'s comparative balance sheets at December 31, 2012 and 2011 reported accumulated depreciation balances of \$960,000 and \$720,000, respectively. Equipment with a cost of \$60,000 and a book value of \$48,000 was the only equipment sold in 2012. Therefore, the depreciation expense for 2012 was
- \$228,000.
 - \$240,000.
 - \$252,000.
 - \$264,000.
53. Blackfoot Ltd's prepaid insurance balance was \$20,000 at December 31, 2012 and \$10,000 at December 31, 2011. Insurance expense was \$8,000 for 2012 and \$6,000 for 2011. How much cash paid for insurance would be reported in Blackfoot's 2012 cash flow statement prepared using the direct method?
- \$22,000.
 - \$18,000.
 - \$12,000.
 - \$ 8,000.

Use the following information for questions 54 and 55.

Cree Corp purchased a building, paying part of the purchase price in cash and issuing a mortgage note payable to the seller for the balance.

54. In a statement of cash flows, what amount is included in investing activities for the above transaction?
- The cash payment.
 - The full purchase price.
 - Zero.
 - The amount mortgaged.
55. In a statement of cash flows, what amount is included in financing activities for the above transaction?
- The cash payment.
 - The full purchase price.
 - Zero.
 - The amount mortgaged.

Use the following information for questions 56 and 57.

Crowfoot Corp's transactions for the year ended December 31, 2012 included the following:

- Purchased land for \$110,000 cash.
- Borrowed \$110,000 from the bank on a long term note.
- Sold long-term investments for \$100,000.
- Reduced accounts receivable by \$20,000.
- Paid cash dividends of \$120,000.
- Issued 500 common shares for \$50,000.
- Purchased machinery and equipment for \$25,000 cash.
- Increased accounts payable \$40,000.

56. The cash used in investing activities for 2012 was
- a. \$135,000.
 - b. \$75,000.
 - c. \$35,000.
 - d. \$10,000.
57. The cash provided by (used in) financing activities for 2012 was
- a. \$ 5,000.
 - b. \$ 40,000.
 - c. \$ (90,000).
 - d. \$(100,000).

Use the following information for questions 58 and 59.

Haida Corp.'s transactions for the year ended December 31, 2012 included the following:

- Acquired 50% of Salish Corp's common shares for \$90,000 cash.
- Issued 5,000 preferred shares in exchange for land having a fair value of \$160,000.
- Issued 11% bonds, due 2018, for \$196,000 cash.
- Purchased a patent for \$110,000 cash.
- Borrowed \$90,000 from Bank A.
- Paid \$60,000 toward a bank loan with Bank B.
- Sold long-term investments for \$398,000.

58. The cash provided by investing activities in 2012 was
- a. \$148,000.
 - b. \$198,000.
 - c. \$238,000.
 - d. \$308,000.
59. The cash provided by financing activities in 2012 was
- a. \$136,000.
 - b. \$226,000.
 - c. \$286,000.
 - d. \$296,000.

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Use the following information for questions 60 through 61.

Iroquois Corp's balance sheets at December 31, 2012 and 2011 and information relating to 2012 activities are presented below.

| | December 31, | |
|---|--------------------|--------------------|
| | <u>2012</u> | <u>2011</u> |
| <u>Assets</u> | | |
| Cash | \$ 110,000 | \$ 50,000 |
| Temporary investments | 150,000 | — |
| Accounts receivable (net) | 255,000 | 255,000 |
| Inventory | 345,000 | 300,000 |
| Long-term investments | 100,000 | 150,000 |
| Property, plant and equipment | 850,000 | 500,000 |
| Accumulated depreciation | (225,000) | (225,000) |
| Goodwill | <u>45,000</u> | <u>50,000</u> |
| Total assets | <u>\$1,630,000</u> | <u>\$1,080,000</u> |
| <u>Liabilities and Shareholders' Equity</u> | | |
| Accounts payable | \$ 415,000 | \$ 360,000 |
| Long-term note payable | 145,000 | — |
| Common shares | 600,000 | 475,000 |
| Retained earnings | <u>470,000</u> | <u>245,000</u> |
| Total liabilities and shareholders' equity | <u>\$1,630,000</u> | <u>\$1,080,000</u> |

Other information relating to 2012 activities:

- Net income was \$375,000.
- Cash dividends of \$150,000 were declared and paid.
- Equipment costing \$250,000 with a book value of \$80,000 was sold for \$90,000.
- A long-term investment was sold for \$80,000. There were no other transactions affecting long-term investments.
- 5,000 common shares were issued for \$25 a share.
- Temporary investments consist of treasury bills maturing on June 30, 2013.

60. The cash used in investing activities in 2012 was
- a. \$580,000.
 - b. \$455,000.
 - c. \$430,000.
 - d. \$420,000.
61. The cash provided by financing activities in 2012 was
- a. \$420,000.
 - b. \$270,000.
 - c. \$130,000.
 - d. \$120,000.

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 52. | c | 54. | a | 56. | c | 58. | b | 60. | a |
| 53. | b | 55. | c | 57. | b | 59. | b | 61. | d |

Unauthorized

DERIVATIONS — Computational

| No. | Answer | Derivation |
|-----|--------|---|
| 21. | b | $\$77,000 - \$30,000 - \$5,000 = \$42,000.$ |
| 22. | a | $\$10,000$ (non cash expense added back). |
| 23. | c | $\$21,000 - (\$150,000 - \$140,000) = \$11,000$ (gain); $\$21,000$ (proceeds). |
| 24. | a | $\$38,000 - (\$92,000 - \$49,000) = \$5,000$ (loss); $\$38,000$ (proceeds). |
| 25. | b | Conceptual. |
| 26. | c | $\$368,000 - \$344,000 + (\$126,000 - \$72,000) = \$78,000.$ |
| 27. | b | $\$210,000 - \$190,000 + (\$100,000 - \$52,000) = \$68,000.$ |
| 28. | a | $\$720,000 - \$650,000 + \$100,000 = \$170,000.$ |
| 29. | c | $\$48,000 - \$24,000 = \$24,000$ (BV); $\$24,000 + \$56,000 = \$80,000.$ |
| 30. | a | $(\$600,000 - \$200,000) - \$24,000 + \$192,000 - \$60,000 = \$508,000.$ |
| 31. | b | $\$76,000 + \$32,000 = \$108,000.$ |
| 32. | c | $\$240,000 + \$200,000 - \$60,000 = \$380,000.$ |
| 33. | d | $\$460,000 + \$160,000 = \$620,000.$ |
| 34. | b | $\$540,000 + \$375,000 - \$233,000 - X = \$436,000; X = \$246,000.$ |
| 35. | d | Conceptual. |
| 36. | c | Conceptual, $\$300,000$ (actual proceeds shown) |
| 37. | a | $\$300,000 - \$8,000 - \$105,000 - \$140,000 - \$15,000 = \$32,000.$ |
| 38. | b | $\$20,000 - \$140,000 = (\$120,000).$ |
| 39. | c | $\$200,000 - \$60,000 - \$40,000 + \$160,000 = \$260,000.$ |
| 40. | c | $\$24,000 + \$30,000 + \$45,000 = \$99,000$ (NI) $(\$15,000 - \$3,000) - \$6,000 = \$6,000$ (Loss) $\$54,000 + \$3,000 - \$24,000 = \$33,000$ (Deprec. exp.) $\$99,000 - \$45,000 - \$75,000 + \$45,000 + \$6,000 + \$33,000 + \$39,000 -$ $\$18,000 = \$84,000.$ |
| 41. | b | $\$6,000 - (\$270,000 + \$15,000 - \$225,000) = (\$54,000).$ |

DERIVATIONS — Computational (Continued)

| No. | Answer | Derivation |
|-----|--------|--|
| 42. | c | $(\$120,000) + \$90,000 - \$30,000 = (\$60,000)$. |
| 43. | a | $\$200,000 - \$180,000 = \$20,000$. |
| 44. | d | $\$400,000 + \$1,200,000 - \$160,000 - \$60,000 - \$120,000 + \$100,000 = \$1,360,000$. |
| 45. | d | $\$3,500,000 + \$30,000 + \$1,100,000 - \$45,000 + \$75,000 = \$4,660,000$. |
| 46. | b | $\$600,000 + \$300,000 + \$110,000 + \$170,000 = \$1,180,000$. |
| 47. | a | $\$36,000 + \$6,000 + (\$40,000 + \$8,000 - \$38,000) - \$18,000 + \$12,000 + \$10,000 - \$5,000 = \$51,000$. |
| 48. | d | $\$27,000 + \$1,050,000 - \$45,000 = \$1,032,000$. |
| 49. | a | $\$49,000 + \$12,000 - \$44,000 = \$17,000$. |
| 50. | b | \$30,000 (sale of equipment; no purchases). |
| 51. | c | $(\$24,000) - (\$30,000) = (\$54,000)$. |

DERIVATIONS — CPA Adapted

| No. | Answer | Derivation |
|-----|--------|---|
| 52. | c | $\$960,000 - \$720,000 + (\$60,000 - \$48,000) = \$252,000$. |
| 53. | b | $\$20,000 + \$8,000 - \$10,000 = \$18,000$. |
| 54. | a | Conceptual. |
| 55. | c | Conceptual. |
| 56. | c | $\$100,000 - \$110,000 - \$25,000 = (\$35,000)$. |
| 57. | b | $\$110,000 - \$120,000 + \$50,000 = \$40,000$. |
| 58. | b | $\$398,000 - \$90,000 - \$110,000 = \$198,000$. |
| 59. | b | $\$196,000 + \$90,000 - \$60,000 = \$226,000$. |
| 60. | a | $\$80,000 + \$90,000 - (\$850,000 + \$250,000 - \$500,000) - \$150,000 = \$580,000$. |
| 61. | d | $(5,000 \times \$25 = \$125,000) + \$145,000 - \$150,000 = \$120,000$. |

EXERCISES

Ex. 22-62—Direct and indirect methods.

Explain and compare the direct method and the indirect method of preparing a statement of cash flows.

Solution 22-62

Only the operating activities section is affected by the choice of method. The investing and financing sections are the same under both methods.

The direct method adjusts revenues and expenses to a cash basis by showing the actual cash received from customers (and any other forms of revenue) and the actual amount of cash paid out for suppliers, employees, operating expenses, interest, taxes, etc. The difference between cash revenues and cash expenses is cash net income, i.e., the net cash flow from operating activities.

The indirect method adjusts accrual net income to a cash basis. This is done by starting with the accrual net income and adding or subtracting changes in the balances of current assets and current liabilities during the year, and adjusting for noncash items included in net income. Examples of noncash items include depreciation and amortization, bad debts expense, amortization of bond discount or premium, book gains and losses on disposal of assets, and equity method revenues and losses.

Ex. 22-63—Choices of cash flow statement categories under IFRS.

Under IFRS, choices are allowed in the categorization of interest paid and received and dividends received. Explain what these choices are.

Solution 22-63

Under IFRS, there are several choices available for these items:

1. Interest paid/received and dividends received (except dividends received from a significant influence investment) can be recognized in operating activities (assuming they are included in calculating net income).
2. Interest paid can also be treated as a financing outflow.
3. Interest and dividends received can also be treated as investing inflows.
4. Dividends paid can be treated as a financing outflow (highlighting the fact they are returns to shareholders), or as an operating outflow (as a measure of the ability of operations to cover returns to shareholders)

Note, however, once management makes the appropriate choices, they must be applied consistently.

Ex. 22-64—Classification of cash flows.

Note that X in the following statement of cash flows identifies a dollar amount and the letters (A) through (F) identify specific items, which appear in the major sections of the statement of cash flows prepared using the indirect method.

| | | |
|--|---------------|---------------|
| Cash flows from operating activities | | |
| Net income | | X |
| Add (deduct) non-cash expenses: | | |
| Add | | +X (A) |
| Deduct | | <u>-X</u> (B) |
| Cash provided by operating activities | | X |
| Cash flows from investing activities | | |
| Inflows | +X (C) | |
| Outflows | <u>-X</u> (D) | |
| Cash provided by (used in) investing activities | | X |
| Cash flows from financing activities | | |
| Inflows | +X (E) | |
| Outflows | <u>-X</u> (F) | |
| Cash provided by (used in) by financing activities | | <u>X</u> |
| Net increase (decrease) in cash | | <u>X</u> |

Instructions

For each of the following items, indicate by letter in the blank spaces below, the section or sections where the effect would be reported. Use the code (A through F) from above. If the item is not required to be reported on the statement of cash flows, write the word "none" in the blank. Assume that generally accepted accounting principles have been followed in determining net income and that there are no temporary investments which are considered cash equivalents.

- ___ 1. Issued preferred shares in exchange for equipment.
- ___ 2. Accounts receivable increased by \$60,000.
- ___ 3. Accrued estimated income taxes for the year.
- ___ 4. Amortization of premium on bonds payable.
- ___ 5. Purchase of long-term investment.
- ___ 6. The book value of temporary investments was reduced to fair value.
- ___ 7. Declaration of stock dividends.

Ex. 22-64 (Continued)

- ___ 8. Bad debts expense recorded (company uses the allowance method)
- ___ 9. Gain on disposal of old machinery.
- ___ 10. Declaration and payment of cash dividends.
- ___ 11. Temporary investments are sold at a loss (FV-NI method used).
- ___ 12. After the retirement of an officer, the insurance policy on his life was cancelled, and a cash settlement was received by the firm. These proceeds were in excess of the book value of the policy.

Solution 22-64

- | | |
|---------|-----------|
| 1. None | 7. None |
| 2. B | 8. A |
| 3. A | 9. B |
| 4. B | 10. F |
| 5. D | 11. B |
| 6. A | 12. B & C |

Ex. 22-65—Classification of cash flows and transactions.

Give:

- (a) Three distinct examples of investing activities.
- (b) Three distinct examples of financing activities.
- (c) Three distinct examples of significant noncash transactions.
- (d) Two examples of transactions not shown on a statement of cash flows.

Solution 22-65

- (a) Investing activities:
 - Purchase or sale of both tangible and intangible assets
 - Purchase or sale of investments in other entities
 - Loans or collection of principal of loans to other entities
- (b) Financing activities:
 - Issuance or reacquiring of shares
 - Issuance or retirement of debt
 - Cash dividends paid to shareholders
- (c) Significant non-cash transactions:
 - Acquiring assets by issuing shares or debt
 - Capital (finance) leases
 - Conversion or refinancing of debt
 - Nonmonetary exchanges of assets

Solution 22-65 (Continued)

- (d) Not shown on the statement of cash flows:
 Stock dividends
 Stock splits

Ex. 22-66—Effects of transactions on the statement of cash flows (indirect method).

Any given transaction may affect a statement of cash flows (using the indirect method) in one or more of the following ways:

Cash flows from operating activities

- A. Net income will be increased or adjusted *upward*.
- B. Net income will be decreased or adjusted *downward*.

Cash flows from investing activities

- C. Increase as a result of cash inflows.
- D. Decrease as a result of cash outflows.

Cash flows from financing activities

- E. Increase as a result of cash inflows.
- F. Decrease as a result of cash outflows.

The statement of cash flows is not affected

- G. Not required to be reported on the statement.

Instructions

For each 2012 transaction listed below, list the *letter or letters* from above that describe(s) the effect of the transaction on a statement of cash flows for the year ending December 31, 2012. (*Ignore any income tax effects.*)

- ___ 1. Preferred shares with a carrying value of \$44,000 were redeemed for \$50,000.
- ___ 2. Uncollectible accounts receivable of \$3,000 were written off against the allowance for doubtful accounts balance of \$12,200.
- ___ 3. Machinery that originally cost \$3,000 with a book value of \$1,800 was sold for \$5,000.
- ___ 4. Land was acquired through the issuance of bonds payable.
- ___ 5. 1,000 common shares were sold for \$25 per share.
- ___ 6. Treasury shares were sold at their carrying value.
- ___ 7. A cash dividend of \$8,000 was paid.
- ___ 8. A patent was purchased for \$20,000.
- ___ 9. Depreciation expense of \$150,000 for the year was recorded.

Solution 22-66

- | | | | | |
|------|--------|------|------|------|
| 1. F | 3. B,C | 5. E | 7. F | 9. A |
| 2. G | 4. G | 6. E | 8. D | |

Ex. 22-67—Effects of transactions on the statement of cash flows.

Indicate for each of the following what should be disclosed on a statement of cash flows (indirect method). If not disclosed, write "Not shown." There may be more than one answer for some items. For an item that is added to net income, write "Add," and for an item that is deducted from net income, write "Deduct." Show financing and investing outflows in parentheses. For example, an answer might be: Deduct \$4,700 or Investing (\$31,000). If the item is a noncash transaction that should be disclosed separately, write "Noncash."

- (a) The future tax liability increased \$10,000.
- (b) The balance in "Investment in Kinnear Corp" increased \$12,000 as a result of using the equity method.
- (c) Issuance of a stock dividend increased the common shares account by \$56,000.
- (d) Amortization of bond discount, \$1,600.
- (e) Machinery that cost \$100,000 and had accumulated depreciation of \$48,000 was sold for \$55,000.
- (f) Issued 3,000 common shares with a market value of \$15 per share for machinery. (Show the amount, too.)
- (g) Amortization of patents, \$3,000.
- (h) Cash dividends paid, \$60,000.

Solution 22-67

- | | |
|---------------------|---|
| (a) Add \$10,000 | (e) Investing \$55,000; Deduct \$3,000 (gain) |
| (b) Deduct \$12,000 | (f) Noncash \$45,000 |
| (c) Not shown | (g) Add \$3,000 |
| (d) Add \$1,600 | (h) Financing (\$60,000) |

Ex. 22-68—Effects of transactions on statement of cash flows.

Indicate for each of the following what should be disclosed on a statement of cash flows (indirect method) and in which section. If not disclosed, write, "Not shown." If an item is a noncash transaction that should be shown separately, write "noncash." If an item is added to net income, write "Add," and if an item is deducted from net income, write "Deduct." Show financing and investing outflows in parentheses. For example, an answer might be: Deduct \$4,700 or Investing (\$31,000). There may be more than one answer for some items.

Ex. 22-68 (Continued)

- (a) For 2012, net income was \$650,000.
- (b) Amortization of bond premium, \$1,100.
- (c) The balance in Retained Earnings was \$485,000 at December 31, 2011 and \$728,000 at December 31, 2012. A stock dividend was declared and distributed which increased common shares \$280,000. (Show calculation of the cash dividend and indicate how it and the stock dividend would be shown)
- (d) Equipment, which cost \$115,000 and had accumulated depreciation of \$53,000, was sold for \$67,000.
- (e) The future income tax liability increased \$18,000.
- (f) Issued 2,000 preferred shares with a fair value of \$130 per share for a parcel of land.

Solution 22-68

- (a) Operating, add \$650,000
- (b) Operating, deduct \$1,100.

| | | | | |
|--------------------------------|------------------|------|-------------------------------|------------------|
| (c) Retained earnings 12/31/12 | \$728,000 | (or) | Net income | \$650,000 |
| Retained earnings 12/31/11 | <u>485,000</u> | | Increase in retained earnings | <u>243,000</u> |
| Increase | 243,000 | | Total dividends | 407,000 |
| Stock dividend | <u>280,000</u> | | Stock dividends | <u>280,000</u> |
| | 523,000 | | Cash dividend | <u>\$127,000</u> |
| Net income | <u>650,000</u> | | | |
| Cash dividend | <u>\$127,000</u> | | | |

Stock dividend—Not shown.
Cash dividend—Financing (\$127,000).

- (d) Investing, \$67,000.
Operating, deduct \$5,000 (gain on sale).
- (e) Operating, add \$18,000.
- (f) Noncash, \$260,000. (2,000 x \$130)

Ex. 22-69—Calculations for statement of cash flows.

During 2012, equipment was sold for \$15,000. This equipment originally cost \$24,000 and had a book value of \$14,000 at the date of sale. Accumulated depreciation for equipment was \$65,000 at December 31, 2011 and \$62,000 at December 31, 2012.

Instructions

Based on the above information show how the sale (including any gain or loss), and the depreciation expense for 2012 would be shown on a statement of cash flows (indirect method). Include your calculations.

Solution 22-69

| | | |
|---|-----------------|------------------------|
| (1) Cash inflow from investing activities | <u>\$15,000</u> | |
| (2) Sales price | \$15,000 | |
| Book value | <u>14,000</u> | |
| Gain on sale | <u>\$ 1,000</u> | Deduct from net Income |
| (3) Cost | \$24,000 | |
| Book value | <u>14,000</u> | |
| Accumulated depreciation | 10,000 | |
| Deduct decrease in accumulated depreciation | <u>(3,000)</u> | |
| Depreciation expense | <u>\$ 7,000</u> | Add to net income |

Ex. 22-70—Calculations for statement of cash flows.

Maliseet Ltd sold a machine that cost \$19,000 and had a book value of \$11,000 for \$13,000. Data from the corporation's comparative balance sheets are:

| | <u>Dec 31/12</u> | <u>Dec 31/11</u> |
|--------------------------|------------------|------------------|
| Machinery | \$200,000 | \$173,000 |
| Accumulated depreciation | 48,000 | 34,000 |

Instructions

From the above information, how should four items be shown on a statement of cash flows (indirect method)? Show your calculations.

Solution 22-70

| | | |
|---|-----------------|------------------------|
| (1) Cash inflow from investing activities | <u>\$13,000</u> | |
| (2) Sales price | \$13,000 | |
| Book value | <u>11,000</u> | |
| Gain on sale | <u>\$ 2,000</u> | Deduct from net income |

Solution 22-70 (Continued)

| | | |
|--|-----------------|--|
| (3) Cost | \$19,000 | |
| Book value | <u>11,000</u> | |
| Accumulated depreciation | 8,000 | |
| Add increase in accumulated depreciation | <u>14,000</u> | |
| Depreciation expense | <u>\$22,000</u> | Add to net income |
| | | |
| (4) Cost of machine sold | \$19,000 | |
| Add increase in machinery | <u>27,000</u> | |
| Purchase of machinery | <u>\$46,000</u> | Cash outflow from investing activities |

Ex. 22-71—Cash flows from operating activities (indirect and direct methods).

Presented below is the latest income statement of Oxford Ltd:

| | |
|----------------------------|------------------|
| Sales | \$380,000 |
| Cost of goods sold | <u>225,000</u> |
| Gross profit | \$155,000 |
| Operating expenses | <u>85,000</u> |
| Income before income taxes | 70,000 |
| Income taxes | <u>28,000</u> |
| Net income | <u>\$ 42,000</u> |

In addition, the following information related to net *changes* in working capital is presented:

| | <u>Debit</u> | <u>Credit</u> |
|---------------------------------------|--------------|---------------|
| Cash | \$12,000 | |
| Accounts receivable (net) | 8,000 | |
| Inventories | | \$19,400 |
| Salaries payable (operating expenses) | 6,000 | |
| Accounts payable | | 9,000 |
| Income tax payable | 3,000 | |

Oxford Ltd also reports that depreciation expense for the year was \$13,700 and that the future income tax liability account increased \$2,600.

Instructions

Prepare a schedule calculating the net cash flow from operating activities that would be shown on a statement of cash flows:

- (a) using the indirect method.
- (b) using the direct method.

Solution 22-71

(a)

| Oxford Ltd. | | |
|---|--------------|-----------------|
| Statement of Cash Flows (Partial) | | |
| (Indirect Method) | | |
| Cash flows from operating activities | | |
| Net income | | \$42,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Increase in accounts receivable | \$ (8,000) | |
| Decrease in inventories | 19,400 | |
| Decrease in salaries payable (operating expenses) | (6,000) | |
| Increase in accounts payable | 9,000 | |
| Decrease in income taxes payable | (3,000) | |
| Depreciation expense | 13,700 | |
| Increase in future income tax liability | <u>2,600</u> | <u>27,700</u> |
| Net cash provided by operating activities | | <u>\$69,700</u> |

(b)

| Oxford Ltd. | | |
|---|---------------|------------------|
| Statement of Cash Flows (Partial) | | |
| (Direct Method) | | |
| Cash flows from operating activities | | |
| Cash received from customers (\$380,000 – \$8,000) | | \$372,000 |
| Cash paid to suppliers (\$225,000 – \$19,400 – \$9,000) | \$196,600 | |
| Operating expenses paid (\$85,000 + \$6,000 – \$13,700) | 77,300 | |
| Taxes paid (\$28,000 + \$3,000 – \$2,600) | <u>28,400</u> | <u>302,300</u> |
| Net cash provided by operating activities | | <u>\$ 69,700</u> |

Ex. 22-72—Statement of cash flows (indirect method).

The following information is taken from Squamish Corporation's financial statements:

| | <u>December 31</u> | |
|--|--------------------|----------------------|
| | <u>2012</u> | <u>2011</u> |
| Cash | \$ 92,000 | \$ 27,000 |
| Accounts receivable | 95,000 | 80,000 |
| Allowance for doubtful accounts | (4,500) | (3,100) |
| Inventory | 145,000 | 175,000 |
| Prepaid expenses | 7,500 | 6,800 |
| Land | 93,000 | 60,000 |
| Buildings | 287,000 | 244,000 |
| Accumulated depreciation | (35,000) | (13,000) |
| Patents, net of accumulated amortization | 20,000 | 35,000 |
| | <u>\$700,000</u> | <u>\$611,700</u> |
| Accounts payable | \$ 90,000 | \$ 84,000 |
| Accrued liabilities | 54,000 | 63,000 |
| Bonds payable | 125,000 | 60,000 |
| Common shares | 100,000 | 100,000 |
| Retained earnings | 346,000 | 312,700 |
| Treasury shares, at cost | (15,000) | (8,000) |
| | <u>\$700,000</u> | <u>\$611,700</u> |
| | | <u>For 2012 Year</u> |
| Net income | | \$53,300 |
| Depreciation expense | | 22,000 |
| Amortization of patents | | 7,000 |
| Cash dividends declared and paid | | 20,000 |
| Gain or loss on sale of patents | | none |

Instructions

Prepare a statement of cash flows (indirect method) for Squamish Corporation for the year 2012.

Solution 22-72

Squamish Corporation
Statement of Cash Flows
Year ended December 31, 2012

| | | |
|--|-----------------|-----------------|
| Cash flows provided by operating activities | | |
| Net income | | \$53,300 |
| Adjust. to reconcile net income to net cash provided by operating activities: | | |
| Depreciation expense | \$22,000 | |
| Amortization of patent | 7,000 | |
| Increase in accounts receivable | (13,600) | |
| Decrease in inventory | 30,000 | |
| Increase in prepaid expenses | (700) | |
| Increase in accounts payable | 6,000 | |
| Decrease in accrued liabilities | <u>(9,000)</u> | <u>41,700</u> |
| Cash provided by operating activities | | 95,000 |
| Cash flows provided by (used in) investing activities | | |
| Purchase of land | (33,000) | |
| Purchase of buildings | (43,000) | |
| Sale of patent (\$35,000 - \$20,000 - \$7,000) | <u>8,000</u> | |
| Cash used in investing activities | | (68,000) |
| Cash flows provided by financing activities | | |
| Sale of bonds | 65,000 | |
| Purchase of treasury shares | (7,000) | |
| Payment of cash dividends | <u>(20,000)</u> | |
| Cash provided by financing activities | | <u>38,000</u> |
| Net increase in cash | | \$65,000 |
| Cash, January 1, 2012 | | <u>27,000</u> |
| Cash, December 31, 2012 | | <u>\$92,000</u> |

Ex. 22-73—Preparation of statement of cash flows (format provided).

Comparative balance sheets for Digby Bay Ltd are shown below.

| Digby Bay Ltd Balance Sheets | | December 31 | |
|---------------------------------|------------------|------------------|--|
| | <u>2012</u> | <u>2011</u> | |
| Cash | \$ 30,900 | \$ 10,200 | |
| Accounts receivable (net) | 48,300 | 20,300 | |
| Inventory | 35,000 | 42,000 | |
| Long-term investments | 0 | 15,000 | |
| Property, plant & equipment | 236,500 | 150,000 | |
| Accumulated depreciation | <u>(37,700)</u> | <u>(25,000)</u> | |
| | <u>\$313,000</u> | <u>\$212,500</u> | |
| | | | |
| Accounts payable | \$ 19,000 | \$ 26,500 | |
| Accrued liabilities | 19,000 | 17,000 | |
| Long-term notes payable | 70,000 | 50,000 | |
| Common shares | 130,000 | 90,000 | |
| Retained earnings | <u>75,000</u> | <u>29,000</u> | |
| | <u>\$313,000</u> | <u>\$212,500</u> | |

Additional information concerning transactions and events during 2012:

1. Net income for the year was \$80,000.
2. Depreciation on plant assets was \$12,700.
3. Sold the long-term investments for \$28,000.
4. Paid cash dividends of \$34,000.
5. Purchased machinery costing \$26,500, paid cash.
6. Purchased machinery by signing a \$60,000 long-term note payable.
7. Extinguished a \$40,000 long-term note payable by issuing common shares.

Instructions

Using the format provided on the next page, prepare a statement of cash flows (indirect method) for 2012 for Digby Bay Ltd.

Ex. 22-73 (Continued)

Digby Bay Ltd
Statement of Cash Flows
Year ended December 31, 2012

| | | |
|---|----------|----------|
| Cash provided by operating activities | | |
| Net income | | \$ _____ |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| _____ | \$ _____ | |
| _____ | | |
| _____ | | |
| _____ | | |
| _____ | | |
| _____ | | |
| _____ | | |
| Cash provided by operating activities | | _____ |
| Cash provided by investing activities | | _____ |
| _____ | | |
| _____ | | |
| _____ | | |
| Cash provided by investing activities | | _____ |
| Cash provided by (used in) financing activities | | _____ |
| _____ | | |
| _____ | | |
| Cash provided by (used in) financing activities | | _____ |
| Net increase (decrease) in cash | | \$ _____ |
| Cash, January 1, 2012 | | _____ |
| Cash, December 31, 2012 | | \$ _____ |

Solution 22-73

Digby Bay Ltd
Statement of Cash Flows
Year ended December 31, 2012

| | | |
|--|-----------------|------------------|
| Cash provided by operating activities | | \$ 80,000 |
| Net income | | <u>80,000</u> |
| Adjustment to reconcile net income to net cash provided by operating activities: | | |
| Depreciation expense | \$ 12,700 | |
| Gain on sale of investments | (13,000) | |
| Increase in accounts receivable | (28,000) | |
| Decrease in inventory | 7,000 | |
| Decrease in accounts payable | (7,500) | |
| Increase in accrued liabilities | 2,000 | |
| | <u>(26,800)</u> | |
| Cash provided by operating activities | | <u>53,200</u> |
| Cash provided by investing activities | | |
| Sale of long-term investments | 28,000 | |
| Purchase of machinery | (26,500) | |
| | <u>1,500</u> | |
| Cash provided by investing activities | | <u>1,500</u> |
| Cash provided by (used in) financing activities | | |
| Paid dividends | (34,000) | |
| | <u>(34,000)</u> | |
| Cash provided by (used in) financing activities | | <u>(34,000)</u> |
| Net increase in cash | | \$ 20,700 |
| Cash, January 1, 2012 | | <u>10,200</u> |
| Cash, December 31, 2012 | | <u>\$ 30,900</u> |

PROBLEMS

Pr. 22-74—Direct and indirect methods compared.

Discuss the advantages and disadvantages of the direct and indirect methods of preparing a statement of cash flows.

Solution 22-74

The direct method adjusts revenues and expenses to a cash basis. The difference between cash revenues and cash expenses is cash net income, which is equal to net cash flow from operating activities (effectively, reporting income on a cash basis). The indirect method involves adjusting accrual net income to a cash basis. This is done by starting with accrual net income, adjusting for changes in working capital items and adding or subtracting noncash items included in net income.

Public companies generally prefer the indirect method, whereas lending officers and investors tend to prefer the direct method, because of the additional information provided. The only section affected by use of the direct vs indirect methods is the operating activities. IFRS and ASPE also encourage the use of the direct method.

The principal advantage of the direct method is that it shows operating cash receipts and payments, and is more consistent with the primary objective of a statement of cash flows, which is to provide information about an entity's cash receipts and cash payments during a specific period. Advocates of this method maintain that such information is useful for estimating future cash flows. A possible disadvantage is that many companies say their data collection methods do not gather the information required to use the direct method, although this argument may be a bit weak given the powerful computer systems available today. As well, supporters of the indirect method say the direct method may incorrectly suggest that net cash flow from operating activities is as good as (or even better than) accrual net income as a performance measure.

The principal advantage of the indirect method is that it focuses on the difference between net income reported on the income statement and the actual cash flow from operating activities. Other advantages offered by indirect method advocates are that it is the "familiar" method which has been used for many years, and that it is cheaper to develop the information compared to the information required for the direct method.

Pr. 22-75—Statement of cash flows (indirect method).

The net *changes* in the balance sheet accounts of Edmonton Corporation for the year 2012 are shown below.

| <u>Account</u> | <u>Debit</u> | <u>Credit</u> |
|--|------------------|------------------|
| Cash | \$ 92,000 | |
| Temporary investments | | \$121,000 |
| Accounts receivable | 73,200 | |
| Allowance for doubtful accounts | | 13,300 |
| Inventory | 74,200 | |
| Prepaid expenses | | 22,800 |
| Long term investment (100% owned subsidiary) | | 20,000 |
| Plant and equipment | 235,000 | |
| Accumulated depreciation | | 155,000 |
| Accounts payable | 80,700 | |
| Accrued liabilities | | 16,500 |
| Future income tax liability | 15,500 | |
| Long term bonds | | 80,000 |
| Common shares | | 240,000 |
| Retained earnings | <u>98,000</u> | |
| | <u>\$668,600</u> | <u>\$668,600</u> |

Other information regarding the corporation's 2012 year:
An analysis of the Retained Earnings account shows:

| | | |
|--------------------------------------|----------------|--------------------|
| Retained earnings, December 31, 2011 | | \$1,300,000 |
| Add: Net income | | <u>287,000</u> |
| Subtotal | | 1,587,000 |
| Deduct: Cash dividend | \$145,000 | |
| Stock dividend | <u>240,000</u> | <u>385,000</u> |
| Retained earnings, December 31, 2012 | | <u>\$1,202,000</u> |

- On January 2, 2012, temporary investments costing \$121,000 were sold for \$150,000.
- The company paid the cash dividend February 1, 2012, and distributed the stock dividend on August 1, 2012.
- Accounts receivable of \$16,200 and \$19,400 were considered uncollectible and written off in 2012 and 2011, respectively.
- Major repairs of \$25,000 to the equipment were debited to the Plant and Equipment account during the year.
- The 100% owned subsidiary reported a net loss for the year of \$20,000.
- At January 1, 2012, the cash balance was \$136,000.
- Long term bonds were sold at par.

Instructions

Prepare a statement of cash flows (indirect method) for the year ended December 31, 2012. Assume Edmonton Corporation has no cash equivalents.

Solution 22-75

Edmonton Corporation
Statement of Cash Flows
Year ended December 31, 2012

| | | |
|---|-----------------|-------------------------|
| Cash provided by operating activities | | \$287,000 |
| Net income | | \$287,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | |
| Equity investment loss | \$ 20,000 | |
| Depreciation expense | 155,000 | |
| Gain on sale of temporary investments | (29,000) | |
| Decrease in future income tax liability | (15,500) | |
| Increase in accounts receivable | (59,900) | |
| Increase in inventory | (74,200) | |
| Decrease in prepaid expenses | 22,800 | |
| Decrease in accounts payable | (80,700) | |
| Increase in accrued liabilities | <u>16,500</u> | <u>(45,000)</u> |
| Cash provided by operating activities | | 242,000 |
| Cash flows provided by (used in) investing activities | | |
| Sale of temporary investments | 150,000 | |
| Purchase of plant and equipment | (210,000) | |
| Major repairs to equipment | <u>(25,000)</u> | |
| Net cash provided by (used in) investing activities | | (85,000) |
| Cash provided by (used in) financing activities | | |
| Payment of cash dividend | (145,000) | |
| Sale of bonds | <u>80,000</u> | |
| Net cash provided by (used in) financing activities | | <u>(65,000)</u> |
| Net increase in cash | | 92,000 |
| Cash, January 1, 2012 | | <u>136,000</u> |
| Cash, December 31, 2012 | | <u><u>\$228,000</u></u> |

Pr. 22-76—Statement of cash flows (direct method).

Queenstown Ltd has prepared the following comparative balance sheets at December 31, 2011 and 2012:

| | <u>2012</u> | <u>2011</u> |
|-----------------------------|------------------|------------------|
| Cash | \$ 99,000 | \$ 51,000 |
| Accounts receivable | 53,000 | 39,000 |
| Inventory | 50,000 | 60,000 |
| Prepaid expenses | 6,000 | 9,000 |
| Property, plant & equipment | 420,000 | 350,000 |
| Accumulated depreciation | (150,000) | (125,000) |
| Goodwill | 51,000 | 58,000 |
| | <u>\$529,000</u> | <u>\$442,000</u> |
| | | |
| Accounts payable | \$ 51,000 | \$ 56,000 |
| Accrued liabilities | 20,000 | 14,000 |
| Mortgage payable | — | 150,000 |
| Preferred shares | 215,000 | — |
| Common shares | 200,000 | 200,000 |
| Retained earnings | 43,000 | 22,000 |
| | <u>\$529,000</u> | <u>\$442,000</u> |

1. The Accumulated Depreciation account has been credited only for the depreciation expense for the year. There were no disposals of property, plant and equipment, but new equipment was purchased during 2012.
2. Depreciation expense and a charge for impairment of goodwill have both been included in operating expenses.
3. The Retained Earnings account was debited for cash dividends declared and paid of \$46,000, and credited for the net income for the year.

The condensed income statement for 2012 is as follows:

| | |
|--------------------|------------------|
| Sales | \$660,000 |
| Cost of sales | <u>363,000</u> |
| Gross profit | 297,000 |
| Operating expenses | <u>230,000</u> |
| Net income | <u>\$ 67,000</u> |

Instructions

From the information above, prepare a statement of cash flows (direct method) for the year ended December 31, 2012.

Solution 22-76

Queenstown Ltd.
Statement of Cash Flows (direct method)
Year ended December 31, 2012

| | | |
|---|----------------|------------------|
| Cash provided by operating activities | | |
| Cash received from customers (1) | | \$646,000 |
| Cash paid to suppliers (2) | \$358,000 | |
| Operating expenses paid (3) | <u>189,000</u> | <u>547,000</u> |
| Net cash provided by operating activities | | 99,000 |
| Cash provided by (used in) investing activities | | |
| Purchase of plant assets | | (70,000) |
| Cash provided by financing activities | | |
| Payment of cash dividend | (46,000) | |
| Payment of mortgage payable | (150,000) | |
| Sale of preferred shares | <u>215,000</u> | |
| Cash provided by financing activities | | <u>19,000</u> |
| Net increase in cash | | 48,000 |
| Cash, January 1, 2012 | | <u>51,000</u> |
| Cash, December 31, 2012 | | <u>\$ 99,000</u> |

(1) \$660,000 – \$14,000 (increase in A/R)

(2) \$363,000 – \$10,000 (decrease in INVT) + \$5,000 (decrease in A/P)

(3) \$230,000 – \$25,000 (depreciation) – \$7,000 (impairment of goodwill) – \$3,000 (decrease in prepaid expenses) – \$6,000 (increase in accrued liabilities)

Pr. 22-77—Complex statement of cash flows (indirect method).

The net *changes* in the balance sheet accounts of Vermont Inc for the calendar year 2012 are shown below:

| <u>Account</u> | <u>Debit</u> | <u>Credit</u> |
|---------------------------------|------------------|------------------|
| Cash | \$ 62,800 | |
| Accounts receivable | | \$ 32,000 |
| Allowance for doubtful accounts | | 7,000 |
| Inventory | 108,600 | |
| Prepaid expenses | 10,000 | |
| Long-term investments | | 72,000 |
| Land | 150,000 | |
| Buildings | 300,000 | |
| Machinery | 50,000 | |
| Office equipment | | 14,000 |
| Accumulated depreciation: | | |
| Buildings | | 12,000 |
| Machinery | | 10,000 |
| Office equipment | 6,000 | |
| Accounts payable | 91,600 | |
| Accrued liabilities | | 36,000 |
| Dividends payable | | 64,000 |
| Bonds payable | | 416,000 |
| Preferred shares | 30,000 | |
| Common shares | | 189,600 |
| Retained earnings | <u>43,600</u> | |
| | <u>\$852,600</u> | <u>\$852,600</u> |

Additional information:

- Net income for the year was \$70,000.
- Cash dividends of \$64,000 were declared December 15, 2012, payable January 15, 2013. A 5% common stock dividend was issued March 31, 2012, when the market value was \$22.00 per share. At the time there were 36,000 common shares outstanding.
- The long-term investments were sold for \$70,000.
- A building which had cost \$240,000, with a book value of \$150,000, was sold for \$200,000, and a new one was purchased.
- The following entry was made to record an exchange of an old machine for a new one:

| | | |
|--|--------|--------|
| Machinery | 80,000 | |
| Accumulated Depreciation—Machinery | 20,000 | |
| Machinery | | 30,000 |
| Cash | | 70,000 |
- A fully depreciated copier machine, which cost \$14,000, was written off.

Pr. 22-77 (Continued)

7. Preferred shares originally issued for \$30,000 were redeemed for \$40,000.
8. Vermont sold 6,000 common shares on June 15, 2012 for \$25 a share.
9. Bonds were sold at 104 on December 31, 2012.
10. Land with a book value of \$120,000 was sold for \$54,000.

Instructions

Prepare a statement of cash flows (indirect method) for calendar 2012.

Solution 22-77

Vermont Inc
Statement of Cash Flows
Year ended December 31, 2012

| | | | |
|---|-----------------|-----|---------------|
| Cash provided by operating activities | | | |
| Net income | | | \$ 70,000 |
| Adjustments to reconcile net income to net cash provided by operating activities: | | | |
| Depreciation expense—buildings | \$102,000 | (1) | |
| Depreciation expense—machinery | 30,000 | (2) | |
| Depreciation expense—office equipment | 8,000 | (3) | |
| Gain on sale of building | (50,000) | (4) | |
| Loss on sale of long-term investments | 2,000 | (5) | |
| Loss on sale of land | 66,000 | (6) | |
| Decrease in accounts receivable (net) | 39,000 | | |
| Increase in inventory | (108,600) | | |
| Increase in prepaid expenses | (10,000) | | |
| Decrease in accounts payable | (91,600) | | |
| Increase in dividends payable | 64,000 | | |
| Increase in accrued liabilities | <u>36,000</u> | | <u>86,800</u> |
| Cash provided by operating activities | | | 156,800 |
| Cash provided by (used in) investing activities | | | |
| Sale of long-term investments | 70,000 | | |
| Proceeds from sale of land | 54,000 | | |
| Purchase of land | (270,000) | (7) | |
| Proceeds from sale of building | 200,000 | | |
| Purchase of building | (540,000) | (8) | |
| Purchase of machinery | <u>(70,000)</u> | | |
| Cash provided by (used in) investing activities | | | (556,000) |

Solution 22-77 (Continued)

| | | |
|---------------------------------------|----------------|------------------|
| Cash provided by financing activities | | |
| Sale of bonds | 416,000 | (9) |
| Retirement of preferred shares | (40,000) | |
| Declaration of cash dividends | (64,000) | |
| Sale of common shares | <u>150,000</u> | (10) |
| Cash provided by financing activities | | <u>462,000</u> |
| Net increase in cash | | <u>\$ 62,800</u> |

| | |
|---|------------------|
| (1) Net change | \$ 12,000 |
| Debit to accumulated depreciation on sale | <u>90,000</u> |
| Depreciation expense | <u>\$102,000</u> |
| (2) Net change | \$10,000 |
| Debit to accumulated depreciation on exchange | <u>20,000</u> |
| Depreciation expense | <u>\$30,000</u> |
| (3) Net change | \$(6,000) |
| Write-off | <u>14,000</u> |
| Depreciation expense | <u>\$ 8,000</u> |
| (4) Sale price of building | \$200,000 |
| Book value | <u>150,000</u> |
| Gain on sale | <u>\$ 50,000</u> |
| (5) Carrying value of long-term investments | \$72,000 |
| Sale price | <u>70,000</u> |
| Loss on sale | <u>\$ 2,000</u> |
| (6) Book value of land | \$120,000 |
| Sale price | <u>54,000</u> |
| Loss on sale | <u>\$ 66,000</u> |
| (7) Net change | \$150,000 |
| Cost of land sold | <u>120,000</u> |
| | <u>\$270,000</u> |
| (8) Net change | \$300,000 |
| Cost of building sold | <u>240,000</u> |
| | <u>\$540,000</u> |
| (9) \$400,000 x 1.04 = \$416,000. | |
| (10) 6,000 x \$25 = \$150,000. | |

Solution 22-77 (Continued)

Common shares

| | | | |
|----------------|--------------------|---|---------------|
| Sale | 6,000 × \$25 | = | \$150,000 |
| Stock dividend | 36,000 × 5% × \$22 | = | <u>39,600</u> |
| Net change | | | \$189,600 |

Retained Earnings

| | |
|----------------------------|-----------------|
| Net income | \$ 70,000 |
| Dividends (cash) | (64,000) |
| Dividends (stock) | (39,600) |
| Preferred share redemption | <u>(10,000)</u> |
| Net change | \$(43,600) |

Unauthorized

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CHAPTER 23

OTHER MEASUREMENT AND DISCLOSURE ISSUES MULTIPLE CHOICE—Conceptual

| Answer | No. | Description |
|--------|-----|--|
| b | 1. | Components of annual report. |
| d | 2. | Increased disclosure requirements. |
| c | 3. | Disclosure of significant accounting policies. |
| c | 4. | Definition of errors and irregularities. |
| d | 5. | Segment revenue test. |
| b | 6. | Segment revenue test. |
| c | 7. | IFRS disclosures for reportable segments. |
| a | 8. | IFRS requirements for reporting segmented information. |
| d | 9. | IFRS requirements for interim reporting. |
| b | 10. | Discrete view for interim reporting. |
| a | 11. | IFRS requirements for interim reporting. |
| c | 12. | Problems with interim reporting. |
| d | 13. | Related-party transactions. |
| c | 14. | Subsequent events requiring adjustments. |
| d | 15. | Subsequent events requiring disclosure only. |
| a | 16. | Disclosures in financial forecasts. |
| c | 17. | Arguments against publishing financial forecasts. |
| b | 18. | Auditor's unqualified opinion. |
| d | 19. | Auditor's qualified opinion. |
| c | 20. | Auditor's adverse opinion. |
| a | 21. | Accounting for unincorporated businesses. |
| b | 22. | Guidance given by ASPE and IFRS. |

MULTIPLE CHOICE—Computational

| Answer | No. | Description |
|--------|-----|--|
| b | 23. | Determine reportable segments. |
| d | 24. | Determine reportable segments. |
| c | 25. | Bonus expense and quarterly income statement. |
| a | 26. | Property taxes and repairs recognized in interim period. |
| c | 27. | Inventory decline reflected in interim statements. |

MULTIPLE CHOICE—CPA Adapted

| Answer | No. | Description |
|--------|-----|---|
| c | 28. | Significant accounting policies disclosures for plant assets. |
| c | 29. | Criteria for reporting segmented information. |
| b | 30. | Identification of reportable segments. |
| b | 31. | Identification of a reportable segment. |
| b | 32. | Advertising costs—year end vs. interim reporting. |
| c | 33. | Annual expenses to be reported in interim statements. |

MULTIPLE CHOICE—CPA Adapted (Continued)

| Answer | No. | Description |
|--------|-----|--|
| b | 34. | One time only and annual expense to be reported in interim statements. |

EXERCISES

| Item | Description |
|--------|--|
| E23-35 | Notes to financial statements. |
| E23-36 | Segmented reporting (IFRS requirements). |
| E23-37 | Segmented reporting. |
| E23-38 | Financial forecasts. |
| E23-39 | Interim reports. |
| E23-40 | Internet financial reporting |
| E23-41 | Income taxes at interim dates. |

PROBLEMS

| Item | Description |
|--------|--|
| P23-42 | Segmented reporting (IFRS requirements). |
| P23-43 | Interim reporting. |
| P23-44 | Types of subsequent events. |
| P23-45 | Auditor's Report. |

MULTIPLE CHOICE—Conceptual

1. Which of the following items found in an annual report is not subject to GAAP?
 - a. Financial statements.
 - b. Management discussion and analysis.
 - c. Inventory methods.
 - d. Accounting policies.

2. Reasons for increasing disclosure requirements do *not* include
 - a. The necessity for timely information.
 - b. The complexity of the business environment.
 - c. Accounting as a control and monitoring device.
 - d. The current government trend toward reducing income taxes.

3. Which of the following does *not* need be disclosed in a Summary of Significant Accounting Policies?
 - a. Treatment of development and marketing costs.
 - b. Revenue recognition method(s).
 - c. Claims of shareholders.
 - d. Depreciation and amortization method(s).

4. Errors and irregularities are defined as intentional distortions of facts. True or false?

| <u>Errors</u> | <u>Irregularities</u> |
|---------------|-----------------------|
| a. Yes | Yes |
| b. Yes | No |
| c. No | Yes |
| d. No | No |

5. According to IFRS, an operating segment is a reportable segment if
 - a. its operating profit is 10% or more of the combined operating profit of profitable segments only.
 - b. its operating loss is 10% or more of the combined operating losses of segments that incurred an operating loss.
 - c. the absolute amount of its operating profit or loss is 10% or more of the greater, in absolute amount, of (a) the combined reported operating profit of all operating segments that incurred a loss, of (b) the combined reported profit of all operating segments that did report a profit.
 - d. the absolute amount of its reported profit or loss is 10% or more of the greater, in absolute amount, of (a) the combined reported operating profit of all operating segments that did not incur a loss, or (b) the combined reported loss of all operating segments that did report a loss.

6. According to IFRS, a segment of a business is to be reported separately when its reporting revenue (including both sales to external customers and intersegment sales or transfers) exceeds 10% of the
 - a. total domestic sales only.
 - b. combined revenues of all the enterprise's operating segments.
 - c. combined revenues of all the enterprise's profitable operating segments.
 - d. combined net income of all the enterprise's profitable operating segments.
7. IFRS requires that all of the following information about each reportable segment must be provided except
 - a. total liabilities.
 - b. interest revenue.
 - c. cost of goods sold.
 - d. income tax expense or benefit.
8. Although ASPE does not offer guidance for reporting segmented information, IFRS requires that
 - a. financial statements include selected information on a single basis of segmentation.
 - b. financial statements include selected information on multiple bases of segmentation.
 - c. financial statements disclose results for every segment, regardless of how many there are.
 - d. management segment the enterprise on a geographical basis only.
9. For interim reporting, IFRS does not require a
 - a. comprehensive income statement.
 - b. statement of shareholders' equity.
 - c. statement of cash flows.
 - d. detailed balance sheet.
10. When using the discrete view to prepare interim statements, two exceptions that are permitted deal with the calculation of
 - a. depreciation and income tax expense.
 - b. income tax expense and employer's payroll tax expense.
 - c. depreciation and unearned revenue.
 - d. unearned revenue and employer's payroll tax expense.
11. Which of the following statements is *incorrect* regarding IFRS requirements for interim reporting?
 - a. Only a balance sheet and statement of comprehensive income are required.
 - b. The same accounting policies should be used as for the annual statements.
 - c. When an accounting change is applied retrospectively, the enterprise must present a balance sheet for the beginning of the earliest comparative period.
 - d. Condensed financial statements are permitted.
12. Problems with interim reporting include
 - a. how to record depreciation.
 - b. inventory valuation.
 - c. how to present a change in accounting policy/principle.
 - d. revenue recognition.

13. Regarding related-party transactions
 - a. transactions between related parties are usually presumed to take place at arms length.
 - b. related parties do not include members of the immediate family of company management.
 - c. Both IFRS and ASPE deal only with disclosure requirements for such transactions.
 - d. ASPE requires that some related-party transactions be remeasured.
14. Which of the following subsequent events (post-balance sheet events) would require adjustment of the accounts before issuance of the financial statements?
 - a. Major losses as a result of a fire in the company's plant.
 - b. Decline in the fair value of investments.
 - c. Loss on an account receivable (on the books at balance sheet date) resulting from a customer's bankruptcy.
 - d. Lawsuit arising from a customer's injury due to a defective product.
15. Which of the following subsequent events (post-balance sheet events) would generally require disclosure in the financial statement notes, but not adjustment of the accounts?
 - a. Death of the company president.
 - b. Settlement of a lawsuit when the event that gave rise to the action occurred prior to the balance sheet date.
 - c. Strike by the company's unionized workers.
 - d. Issue of a significant number of common shares.
16. A financial forecast presents, to the best of the responsible party's knowledge and belief,
 - a. an enterprise's expected financial position, results of operations, and cash flows.
 - b. an assessment of the company's ability to be successful in the future.
 - c. given one or more hypothetical assumptions, an entity's expected financial position, results of operations, and cash flows.
 - d. an assessment of the company's ability to be successful in the future under a number of different assumptions.
17. Arguments against requiring published financial forecasts include
 - a. circumstances now change so rapidly that historical information is no longer adequate for prediction.
 - b. forecasts are already circulated informally, but are uncontrolled, frequently misleading, and not available equally to all investors.
 - c. forecasts will inevitably be wrong.
 - d. investment decisions are based on future expectations.
18. When an auditor expresses an unqualified opinion about a company's financial statements, it means that the financial statements
 - a. are free from error.
 - b. present fairly the financial position, results of operations, and cash flows in accordance with GAAP.
 - c. indicate that the company is doing well and would make a good investment.
 - d. contain exceptions due to a departure from GAAP.

19. When an auditor expresses a qualified opinion about a company's financial statements, it means that the financial statements
 - a. are free from error.
 - b. present fairly the financial position, results of operations, and cash flows in accordance with GAAP.
 - c. indicate that the company is doing well and would make a good investment.
 - d. contain exceptions due to a departure from GAAP.

20. An auditor's adverse opinion
 - a. although very rare in the past, is frequently seen nowadays.
 - b. means the financial statements are prepared in accordance with GAAP.
 - c. is given when the auditor deems a qualified opinion is not justified.
 - d. means there are some minor exceptions due to a departure from GAAP.

21. Accounting issues involved for unincorporated businesses include
 - a. the definition of the economic entity.
 - b. who owns the issued shares.
 - c. segregating the salaries expense for the owner(s) from the salaries expense for the employees.
 - d. provision for income taxes.

22. Which statement is *incorrect* regarding guidance given by IFRS and ASPE?
 - a. IFRS provides guidance for interim reporting, while ASPE does not.
 - b. ASPE provides guidance for segmented reporting, while IFRS does not.
 - c. IFRS provides guidance for segmented reporting, while ASPE does not.
 - d. IFRS does not provide guidance for reporting on unincorporated businesses.

Multiple Choice Answers—Conceptual

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|------|------|
| 1. | b | 5. | d | 9. | d | 13. | d | 17. | c | 21. | a |
| 2. | d | 6. | b | 10. | b | 14. | c | 18. | b | 22. | b |
| 3. | c | 7. | c | 11. | a | 15. | d | 19. | d | | |
| 4. | c | 8. | a | 12. | c | 16. | a | 20. | c | | |

MULTIPLE CHOICE—Computational

23. Presented below are four segments that have been identified by Gander Corp:

| <u>Segments</u> | <u>Total Revenue</u> | <u>Operating Profit (Loss)</u> | <u>Assets</u> |
|-----------------|----------------------|--------------------------------|---------------|
| A | \$150,000 | \$20,000 | \$600,000 |
| B | 400,000 | (35,000) | 600,000 |
| C | 150,000 | 3,000 | 300,000 |
| D | 60,000 | 4,000 | 150,000 |

According to IFRS, which segments would be considered reportable segments?

- Segments A, B, and C
 - Segments A, B, C, and D
 - Segments A and B
 - Segments A and D
24. Presented below are five segments that have been identified by Goose Bay Inc:

| <u>Segments</u> | <u>Total Revenue</u> | <u>Operating Profit (Loss)</u> | <u>Assets</u> |
|-----------------|----------------------|--------------------------------|---------------|
| A | \$100,000 | \$ 9,000 | \$380,000 |
| B | 600,000 | 25,000 | 1,200,000 |
| C | 180,000 | 35,000 | 700,000 |
| D | 400,000 | 25,000 | 1,000,000 |
| E | 300,000 | (6,000) | 900,000 |

According to IFRS, which segments would be considered reportable segments?

- Segments B, C and D
 - Segments A, B, C, D and E
 - Segments B, D and E
 - Segments B, C, D and E
25. In January 2012, Fundy Ltd estimated that its year-end bonuses to executives for calendar 2012 would be \$320,000. In February 2012, \$290,000 was paid in bonuses for the 2011 year-end. The estimate for 2012 is subject to year-end adjustment. How much bonus expense should be reflected in Fundy's interim income statement for the three months ended March 31, 2012?
- \$320,000.
 - \$290,000.
 - \$ 80,000.
 - \$ 72,500.

23- 8 Test Bank for Intermediate Accounting, Ninth Canadian Edition

26. On January 15, 2012, Truro Corp paid \$240,000 in property taxes on its factory building for the calendar year 2012. In the first week of April 2012, the corporation made unanticipated repairs to its plant equipment at a cost of \$600,000. These repairs will benefit operations for the remainder of 2012 only. How should these expenses be reflected in Truro's quarterly income statements?

| | <u>Three Months Ended</u> | | | |
|----|---------------------------|----------------|----------------|-----------------|
| | <u>3/31/12</u> | <u>6/30/12</u> | <u>9/30/12</u> | <u>12/31/12</u> |
| a. | \$ 60,000 | \$260,000 | \$260,000 | \$260,000 |
| b. | \$ 60,000 | \$660,000 | \$ 60,000 | \$ 60,000 |
| c. | \$240,000 | \$600,000 | \$ -0- | \$ -0- |
| d. | \$210,000 | \$210,000 | \$210,000 | \$210,000 |

27. Halifax Inc determined, at June 30, 2012, that the net realizable value of their inventory was \$900,000 lower than cost. None of this loss was recovered by the end of the year. How should this loss be reflected in the company's quarterly income statements?

| | <u>Three Months Ended</u> | | | |
|----|---------------------------|----------------|----------------|-----------------|
| | <u>3/31/12</u> | <u>6/30/12</u> | <u>9/30/12</u> | <u>12/31/12</u> |
| a. | \$ -0- | \$ -0- | \$ -0- | \$900,000 |
| b. | \$ -0- | \$300,000 | \$300,000 | \$300,000 |
| c. | \$ -0- | \$900,000 | \$ -0- | \$ -0- |
| d. | \$225,000 | \$225,000 | \$225,000 | \$225,000 |

Multiple Choice Answers—Computational

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|------|------|
| 23. | b | 24. | d | 25. | c | 26. | a | 27. | c |

MULTIPLE CHOICE—CPA Adapted

28. Which of the following facts concerning property, plant and equipment should be included in the Summary of Significant Accounting Policies?

| | <u>Depreciation Method</u> | <u>Composition</u> |
|----|----------------------------|--------------------|
| a. | No | Yes |
| b. | Yes | Yes |
| c. | Yes | No |
| d. | No | No |

29. Moncton Corp is a multidivisional corporation that has both intersegment sales and sales to external customers. Moncton should report segmented financial information for each division meeting which of the following IFRS criteria?

- Segment profit or loss is 10% or more of consolidated profit or loss.
- Segment profit or loss is 10% or more of combined profit or loss of all company segments.
- Segment revenue is 10% or more of combined revenue of all the company segments.
- Segment revenue is 10% or more of consolidated net income.

30. Corner Valley Corp is engaged in manufacturing operations in various industries. The following data pertain to the industries in which operations were conducted for the year ended December 31, 2012.

| <u>Industry</u> | <u>Revenue</u> | <u>Profit</u> | <u>Assets 12/31/12</u> |
|-----------------|---------------------|--------------------|----------------------------|
| A | \$10,000,000 | \$1,650,000 | \$20,000,000 |
| B | 8,000,000 | 1,400,000 | 17,500,000 |
| C | 6,000,000 | 1,200,000 | 12,500,000 |
| D | 3,000,000 | 550,000 | 6,500,000 |
| E | 4,250,000 | 675,000 | 7,000,000 |
| F | 1,500,000 | 225,000 | 3,000,000 |
| | <u>\$32,750,000</u> | <u>\$5,700,000</u> | <u>\$66,500,000</u> |

According to IFRS, how many reportable segments does Corner Valley have?

- Three.
- Four.
- Five.
- Six.

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31. The following information pertains to Labrador Corp and its various divisions for the year ended December 31, 2012.

| | |
|--|-------------|
| Sales to external customers | \$1,500,000 |
| Intersegment sales of products similar to those sold to external customers | 450,000 |
| Interest earned on loans to other operating segments | 30,000 |

According to IFRS, Labrador has a reportable segment if that segment's revenue equals or exceeds

- a. \$198,000.
b. \$195,000.
c. \$153,000.
d. \$150,000.
32. Advertising costs may be accrued or deferred to provide an appropriate expense in each period for
- | | <u>Interim</u>
<u>Financial Reporting</u> | <u>Year-end</u>
<u>Financial Reporting</u> |
|----|--|---|
| a. | Yes | No |
| b. | Yes | Yes |
| c. | No | No |
| d. | No | Yes |
33. Sydney Corp has estimated that total depreciation expense for the 2012 calendar year will be \$120,000, and that 2012 year-end bonuses to employees will be \$240,000. In Sydney's interim income statement for the six months ended June 30, 2012, what total expense relating to these two items should be reported?
- a. \$ 0.
b. \$ 60,000.
c. \$180,000.
d. \$360,000.

34. Trafalgar Corp had the following transactions during the quarter ended March 31, 2012:

| | |
|--|-----------|
| Loss due to theft | \$126,000 |
| Payment of fire insurance for calendar year 2012 | 180,000 |

What amount should be included in Trafalgar's income statement for the quarter ended March 31, 2012?

| | <u>Loss from Theft</u> | <u>Insurance Expense</u> |
|----|------------------------|--------------------------|
| a. | \$126,000 | \$180,000 |
| b. | \$126,000 | \$ 45,000 |
| c. | \$ 31,500 | \$ 45,000 |
| d. | \$ 0 | \$180,000 |

Multiple Choice Answers—CPA Adapted

| Item | Ans. | Item | Ans. | Item | Ans. | Item | Ans. |
|------|------|------|------|------|------|------|------|
| 28. | c | 30. | b | 32. | b | 34. | b |
| 29. | c | 31. | b | 33. | c | | |

Unauthorized

DERIVATIONS — Computational

| No. | Answer | Derivation |
|-----|--------|--|
| 23. | b | Revenue test: Total revenue = $\$760,000 \times 10\% = \$76,000$. Operating profit test: $\$35,000 \times 10\% = \$3,500$. Asset test: Total assets = $\$1,650,000 \times 10\% = \$165,000$. |
| 24. | d | Revenue test: Total revenue = $\$1,580,000 \times 10\% = \$158,000$. Operating profit test: $\$94,000 \times 10\% = \$9,400$. Asset test: Total assets = $\$4,180,000 \times 10\% = \$418,000$. |
| 25. | c | $\$320,000 \div 4 = \$80,000$. |
| 26. | a | $\$240,000 \div 4 = \$60,000$. $\$600,000 \div 3 = \$200,000$. |
| 27. | c | Conceptual. |

DERIVATIONS — CPA Adapted

| No. | Answer | Derivation |
|-----|--------|---|
| 28. | c | Conceptual. |
| 29. | c | Conceptual. |
| 30. | b | Revenue test: $\$32,750,000 \times 10\% = \$3,275,000$ Profit test: $\$5,700,000 \times 10\% = \$570,000$ Asset test: $\$66,500,000 \times 10\% = \$6,650,000$ A, B, C, E. |
| 31. | b | $(\$1,500,000 + \$450,000) \times 10\% = \$195,000$. |
| 32. | b | Conceptual. |
| 33. | c | $(\$120,000 + \$240,000) \div 2 = \$180,000$. |
| 34. | b | Loss from theft = $\$126,000$ Insurance expense = $\$180,000 \div 4 = \$45,000$. |

EXERCISES

Ex. 23-35—Notes to financial statements.

An article in Dun's Review made the following comments: "At least every other year, businesses should print the notes in big type and the financial figures in smaller ones."

Instructions

- (a) Are notes considered part of the financial statements and what basic purpose do they serve?
- (b) What are the general types of notes?

Solution 23-35

(a) Notes are an integral part of the financial statements of a business enterprise. They are the accountant's method of more fully disclosing data relevant to the interpretation of the statements. Information pertinent to specific financial statement items can be explained in qualitative terms, and supplementary data of a quantitative nature can be provided to expand on the information in the financial statements. Restrictions imposed by financial arrangements or basic contractual agreements can also be explained in notes.

(b) The more common types of notes disclose such items as the following: (1) accounting methods used for depreciation, amortization and inventory, (2) contingent assets or liabilities, (3) restrictions required by loan covenants, (4) revenue recognition methods, and (5) purchase commitments.

Ex. 23-36—Segmented reporting (IFRS requirements).

IFRS requires the reporting of segmented (disaggregated) financial data about operating segments and also about their products and services, the geographic areas in which they operate, and their major customers.

Instructions

Identify four of the items of segmented information IFRS requires an enterprise to report.

Solution 23-36

IFRS requires that an enterprise report the following segmented information:

1. General information about its reportable segments.
2. Segment revenues, profit and loss, assets, liabilities, and related information.
3. Reconciliation of the total of the segments' revenues to total revenues, a reconciliation of the total of operating segments' profits and losses to its income before income taxes and discontinued operations, and a reconciliation of the total of the operating segments' assets and liabilities to total assets and liabilities. Reconciliations for other significant items that are disclosed should also be presented.
4. Information about products and services (revenue from external customers).
5. Revenues from external customers (domestic vs foreign) and capital assets and goodwill (domestic vs foreign). If the amounts are material, foreign information must be disclosed by country.
6. If 10% or more of the revenues are derived from a single customer, the enterprise must disclose the total amount of revenues from each of these customers by segment.

Note that ASPE does not provide guidance for reporting segmented information.

Ex. 23-37—Segmented reporting.

Jiwani Corporation's most recent (condensed) income statement is presented below:

| | | |
|---------------------------------------|----------------|-------------------|
| Revenues | | \$2,500,000 |
| Expenses | | |
| Cost of goods sold | \$1,000,000 | |
| Operating and administrative expenses | 500,000 | |
| Depreciation expense | <u>100,000</u> | <u>1,600,000</u> |
| Income before taxes | | 900,000 |
| Income tax expense | | <u>270,000</u> |
| Net income | | <u>\$ 630,000</u> |
| Earnings per share (100,000 shares) | | <u>\$6.30</u> |

Ex. 23-37 (Continued)

The following data relates to Jiwani's operating segments:

| | <u>Percent Identified with Segment</u> | | |
|---------------------------------------|--|---------------|--------------|
| | <u>Hotels</u> | <u>Grains</u> | <u>Candy</u> |
| Revenues | 42% | 50% | 8% |
| Cost of goods sold | 48 | 49 | 3 |
| Operating and administrative expenses | 35 | 50 | 15 |
| Depreciation expense | 46 | 42 | 12 |

Included in the amounts allocated to each segment on the above percentages are the following expenses, which relate to general corporate activities:

| | <u>Operating Segment</u> | | | <u>Totals</u> |
|---------------------------------------|--------------------------|---------------|--------------|---------------|
| | <u>Hotels</u> | <u>Grains</u> | <u>Candy</u> | |
| Operating and administrative expenses | \$30,000 | \$22,000 | \$8,000 | \$60,000 |
| Depreciation expense | 4,000 | 5,000 | 3,000 | 12,000 |

Instructions

(Assume that the corporation adheres to IFRS)

- Prepare a schedule showing the amounts distributed to each segment.
- Based only on the above information, which segments must be reported and why?

Solution 23-37

| | <u>Operating Segment</u> | | | <u>Totals</u> |
|------------------------------|--------------------------|-------------------|------------------|-------------------|
| | <u>Hotels</u> | <u>Grains</u> | <u>Candy</u> | |
| Revenues (1) | \$1,050,000 | \$1,250,000 | \$200,000 | \$2,500,000 |
| Expenses— | | | | |
| Cost of goods sold (1) | 480,000 | 490,000 | 30,000 | 1,000,000 |
| Operating and admin. exp (2) | 145,000 | 228,000 | 67,000 | 440,000 |
| Depreciation expense (3) | 42,000 | 37,000 | 9,000 | 88,000 |
| Total expenses | <u>667,000</u> | <u>755,000</u> | <u>106,000</u> | <u>1,528,000</u> |
| Operating profit | <u>\$ 383,000</u> | <u>\$ 495,000</u> | <u>\$ 94,000</u> | <u>\$ 972,000</u> |

- Total times segment percentage.
 - $\text{Hotels} = (\$500,000 \times 35\%) - \$30,000 = \$145,000$
 $\text{Grains} = (\$500,000 \times 50\%) - \$22,000 = \$228,000$
 $\text{Candy} = (\$500,000 \times 15\%) - \$8,000 = \$67,000$
 - $\text{Hotels} = (\$100,000 \times 46\%) - \$4,000 = \$42,000$
 $\text{Grains} = (\$100,000 \times 42\%) - \$5,000 = \$37,000$
 $\text{Candy} = (\$100,000 \times 12\%) - \$3,000 = \$9,000$
- Two segments, Hotels and Grains, must be reported because they satisfy the revenue test; that is, the segment's revenues are 10% or more of the combined revenues of all operating segments. In addition, both the Hotels and the Grains segments meet the 10% of the operating profit test.

Ex. 23-38—Financial forecasts.

Many investors and analysts have proposed that corporations include financial forecasts in their annual reports.

Instructions

- (a) What are the arguments for supporting the publication of such forecasts?
- (b) What are the arguments for opposing the publication of such forecasts?

Solution 23-38

- (a) The *basic argument* for the publication of financial forecasts in corporate annual reports is to provide the investor with additional information about the future activities of the company upon which to base investment decisions.
A *second argument* is that forecasts are already circulated informally, but they are uncontrolled, frequently misleading, and not available to all investors.
A *third argument* is that circumstances now change so rapidly that historical information is no longer adequate for prediction.
- (b) *One argument* raised against the publication of such forecasts is that no one can foretell the future. Therefore, forecasts, while conveying an impression of precision about the future, will inevitably be wrong.
A *second argument* is that the organizations would strive only to meet their published forecasts, not to produce results that are in the shareholders' best interest.
A *third argument* is that if forecasts prove to be inaccurate, there will be recriminations and possible legal actions.
A *fourth argument* is the likelihood that the forecast would provide competitors with confidential information, thus endangering business strategy and the performance of the firm.

Ex. 23-39—Interim reports.

A few years ago, a publishing company reported a quarterly net profit figure that exceeded sales for that quarter. Such a situation suggests there are some difficult accounting issues involved in interim reporting.

Instructions

- (a) What are the major accounting problems related to interim reports?
- (b) What problem exists with income taxes in interim reports and how does IFRS recommend that income taxes should be reported?
- (c) Many academicians have attempted to predict the year's net income after the first quarter's income is reported. These attempts are generally unsuccessful, no matter how sophisticated the prediction model. What might be the reason for this inability to predict?

Solution 23-39

- (a) The major accounting issues related to interim reporting are the treatment of (1) annually determined items such as income taxes, pension costs, and executive compensation based on annual net income, (2) retrospective accounting changes, (3) earnings per share, and (3) the problem of seasonality.
- (b) The basic question with income taxes is whether, in the preparation of interim income statements, the provision for taxes should reflect the anticipated effective tax rate for the year or be calculated on the basis of actual results for that interim period. IFRS recommends that at the end of each interim period the company should make its best estimate of the effective tax rate expected to be applicable for the full fiscal year. This rate should then be used in estimating income taxes on a current year-to-date basis.
- (c) The prediction models are probably unsuccessful because accountants have not treated the problem of seasonality correctly in their interim reports. One of the problems is that fixed nonmanufacturing costs are not charged in proportion to sales. Rather, these costs are charged as incurred, or spread evenly over each quarter. As a result, it is extremely difficult to make accurate predictions because some artificial concepts are used for matching purposes.

Ex. 23-40—Internet financial reporting.

Discuss some of the issues involved with corporations reporting their results on the internet rather than in paper based formats.

Solution 23-40

Advantages of internet reporting include the possibility of communicating with more users, lower cost of communication, the ability of users to use internet and computer tools to help in analysis of financial statements, more timely information, and the possibility of increased availability of information. Possible disadvantages are the differential access due to less than universal access to the internet and issues around reliability of the information, including the possibility of data corruption by hackers and the unaudited nature of much of the information.

Ex. 23-41— Income taxes at interim dates.

Discuss how income taxes are handled at interim dates.

Solution 23-41

It is not feasible to prepare an accurate estimate of income taxes on interim statements as the tax rate is often dependent on the total taxable income for the year. As a result, interim income taxes are estimated using the annual estimated tax rate applied to the estimated interim taxable income and temporary differences.

PROBLEMS

Pr. 23-42—Segmented reporting (IFRS requirements).

A central issue in reporting on operating segments of a business enterprise is the determination of which segments are reportable under IFRS.

Instructions

1. According to IFRS, what are the tests to determine whether or not an operating segment is reportable?
2. What is the test to determine if enough operating segments have been separately reported upon, and what is the guideline on the maximum number of operating segments to be shown?

Solution 23-42

1. There are three basic tests to be applied to segments of an industry to see if they are significant enough to be separately reportable. If a segment meets any one of the tests, it is deemed significant and reportable.

The first test is based on revenue. If a segment's revenue from sales to external customers and intersegment sales and transfers is equal to 10% or more of the enterprise's combined revenues, the segment is reportable.

The second test is based on profits or losses. A segment is deemed reportable if the absolute amount of its profit or loss is 10% or more of the greater, in absolute amount, of:

The combined profits of all operating segments reporting profits.

The combined losses of all operating segments reporting losses.

Third, a segment is reportable if its assets equal or exceed 10% of the combined assets of all operating segments of the enterprise.

2. Enough operating segments must be separately reported so that the total of revenues from sales to external customers for the reportable segments equals or exceeds 75% of the combined sales to external customers for the entire enterprise. If applying the prescribed tests does not yield the required percentage of revenues described above, additional segments must be reported on until the 75% test is met.

The profession recognizes that if an enterprise has many reportable segments, the benefit to the reader may be lost if more than 10 segments are reported. Therefore, it has proposed ten segments as an upper limit for the number of reportable segments.

Note that ASPE does not provide guidance for reporting segmented information.

Pr. 23-43—Interim reporting.

There is ongoing discussion as to the proper method of reflecting results of operations at interim dates. Accordingly, IFRS has made recommendations regarding interim financial reporting.

Instructions

- (a) Discuss generally how revenue should be recognized at interim dates and specifically how revenue should be recognized for industries subject to large seasonal fluctuations in revenue and for long-term contracts using the percentage-of-completion method.
- (b) Discuss generally how product and period costs should be recognized at interim dates. Also discuss how inventory values should be treated at interim dates.
- (c) Discuss how the provision for income taxes is calculated and reported in interim financial statements.

Solution 23-43

- (a) Sales and other revenues should be recognized for interim financial statement purposes in the same manner as for annual reporting purposes. This means normally at the point of sale or, in the case of services, at completion of the earnings process.

In the case of industries whose sales vary greatly due to the seasonality, revenues should still be recognized as earned, but a disclosure should be made of the seasonal nature of the business.

In the case of long-term contracts recognizing earnings on the percentage-of-completion basis, the current state of completion of the contract should be estimated and revenue recognized at interim dates in the same manner as at the normal year-end.

- (b) For interim reporting purposes, product costs (costs directly attributable to the production of goods or services) should be matched with the product and associated revenues in the same manner as for annual reporting purposes.

Period costs (costs not directly associated with the production of a particular good or service) should be charged to earnings as incurred or allocated among interim periods based on an estimate of time expired, benefit received, or other activity associated with the particular interim period(s). Also, if a gain or loss occurs during an interim period and is a type that would not be deferred at year-end, the gain or loss should be recognized in full in the interim period in which it occurs. Finally, in allocating period costs among interim periods, the basis for allocation must be supportable and may not be based on merely an arbitrary assignment of costs between interim periods.

Inventory losses from a decline in market value at interim dates should be recognized in the appropriate period unless they are temporary and no loss is expected for the fiscal year.

- (c) A corporation would prepare its tax return at year-end and assess taxes payable and related tax balances. It is normally neither cost effective nor feasible (since tax rates are often graduated) to do this for each interim period. Therefore an annual estimated tax rate is calculated, then an estimate is made of interim taxable income and temporary differences and then the annual estimated tax rate is applied.

Pr. 23-44—Types of subsequent events.

Identify the difference between the two types of subsequent events.

Solution 23-44

Type 1 events provide additional evidence about situations that existed at the balance sheet date, affecting the estimates used in preparing the financial statements and, therefore, will result in required adjustments. These items should be reflected in the final financial statements. To ignore these subsequent transactions is to miss an opportunity to improve the accuracy of the financial statements.

Type 2 events provide evidence about situations that did not exist at the balance sheet date. They arise subsequent to the balance sheet date, and no adjustments are made to the accounts. However, they should be afforded note disclosure if they will have a material impact on the future of the enterprise.

Pr. 23-45—Auditor's Report.

Identify the major disclosures found in the auditor's report.

Solution 23-45

If the auditor is satisfied that the financial statements fairly present the financial position, results of operations, and cash flows, in all material respects, in accordance with generally accepted accounting principles, an unqualified opinion is expressed.

A qualified opinion contains an exception to the standard opinion; ordinarily the exception is not of sufficient magnitude to invalidate the statements as a whole. A qualified opinion may also be given if there is a scope limitation where the auditor has not been able to obtain sufficient and appropriate evidence.

An adverse opinion is required in any report in which the exceptions to fair presentation are so material that a qualified opinion is not justified. A disclaimer of an opinion is appropriate when the auditor has gathered so little information on the financial statements that no opinion can be expressed. In such a case, the financial statements taken as a whole are not presented in accordance with Generally Accepted Accounting Principles.

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