**Advanced Long-term Debt Paying**

**Ability Analysis**

**Answer Keys**

**Income Taxes at Ranger**

1.

|  |  |
| --- | --- |
|  | **Operating Income** |
| **Accounting profit** | 650,000 |
| **Permanent differences** |  |
|  Stock options expense | 15,000 |
|  Canadian intercorporate dividends | (6,000) |
|  Non-taxable capital gain | (4,000) |
|  Goodwill impairment | 2,250 |
| **Adjusted accounting income** | 657,250 |
| **Temporary differences** |  |
|  CCA < Depreciation | 100,000 |
|  Warranty | 22,000 |
|  Unearned revenue | 65,000 |
|  Accounts receivable | (105,000) |
|  Exploration costs | 30,000 |
|  Liability claim | 15,000 |
| **Taxable profit** | 784,250 |

Current income tax expense 196,062.50

 Income taxes payable 196,062.50

1 (784,250) (.25)

Deferred income taxes 31,750.00

 Deferred income tax expense 31,750.00

1 (784,250 – 657,250) (.25)

2.

|  |  |  |
| --- | --- | --- |
| Income before taxes |  | 650,000.00 |
| Income tax expense  |  |  |
|  Current | (196,062.50) |  |
|  Deferred | 31,750.00 | 1164,312.50 |
| Net income |  | 485,687.50 |

1 (657,250 x .25)

3.

**Other Assets**

 Deferred income taxes 31,750.00

**Current Liabilities**

 Income taxes payable 196,062.50

4.

**Reconciliation of Income Tax Expenses**

|  |  |  |
| --- | --- | --- |
| **Income before taxes** | **650,000.00** | **Effective Tax Rate** |
| Income tax at statutory rate (25%) | 162,500.00 | 25.00% |
| Adjustments |  |  |
|  Stock options (15,000) (.25) | 3,750.00 | 0.58% |
|  Intercorporate dividends (6,000) (.25) | (1,500.00) | (0.23%) |
|  Non-taxable capital gains (4,000) (.25) | (1,000.00) | (0.15%) |
|  Goodwill impairment (2,250) (.25) | 562.50 | .09% |
| Income tax expense | 164,312.50 | 25.29% |

**Income Taxes at Selkirk**

1.

|  |  |
| --- | --- |
|  | **Operating Income** |
| **Accounting profit** | 350,000 |
| **Permanent differences** |  |
|  Canadian intercorporate dividends | (2,000) |
|  Non-taxable capital gain | (12,000) |
| **Adjusted accounting income** | 336,000 |
| **Temporary differences** |  |
|  CCA < Depreciation | 40,000 |
|  Accounts receivable | (85,000) |
|  Warranty | 10,000 |
|  Legal settlement | (14,000) |
|  Unearned revenue | 18,000 |
|  R&D | 12,000 |
| **Taxable profit** | 317,000 |

Current income tax expense 79,250

 Income taxes payable 79,250

1 (317,000) (.25)

Deferred income tax expense 4,750

 Deferred income taxes 4,750

1 (336,000 – 317,000) (.25)

2.

|  |  |  |
| --- | --- | --- |
| Income before taxes |  | 350,000 |
| Income tax expense  |  |  |
|  Current | (79,250) |  |
|  Deferred | (4,750) | (84,000) |
| Net income |  | 266,000 |

3.

**Current Liabilities**

 Income taxes payable 79,250

**Long-term Liabilities**

 Deferred income taxes 4,750

4.

**Reconciliation of Income Tax Expenses**

|  |  |  |
| --- | --- | --- |
| Income before taxes | 350,000 |  |
| Income tax at statutory rate (25%) | 87,500 | 25.00% |
| Adjustments |  |  |
|  Intercorporate dividends (2,000) (.25) | (500) | (0.14%) |
|  Non-taxable capital gains (12,000) (.25) | (3,000) | (0.86%) |
| Income tax expense | 84,000 | 24.00% |

**Loss Carrybacks and Carryforwards at Smith**

1.

**2018**

Income taxes of CAD 62,500 (CAD 250,000 x 25%) are payable.

**2019**

A tax refund of CAD 37,500 (CAD 150,000 x 25%) is receivable. The losses were carried back up to three years if there were sufficient profits.

**2020**

CAD 100,000 of the CAD 200,000 loss could be carried back as there were profits of CAD 100,000 (CAD 250,000 - CAD 150,000) remaining in the last three years. A tax refund of CAD 25,000 (CAD 100,000 x 25%) is receivable. The remaining CAD 100,000 of unused loss carryforwards (CAD 200,000 - CAD 100,000) will probably be usable (over 50% probability) in the future, so the value of the potential CAD 25,000 future tax refund (CAD 100,000 x 25%) is recognized as a deferred income tax asset. It appears as an asset on the balance sheet and will be used to reduce taxes payable in the future.

**2021**

Income taxes of CAD 75,000 (CAD 300,000 x 25%) would have been payable without the loss carryforward. Income taxes of CAD 50,000 (CAD 200,000 x 25%) are payable as the deferred income tax asset of CAD 25,000 (CAD 100,000 x 25%) recognized last year is used to reduce the taxes payable. This deferred income tax asset is removed from the balance sheet after it is used.

2.

The deferred income tax assets from the loss carryforwards would only be noted.

**Loss Carrybacks and Carryforwards at Jones**

1.

**2018**

No income tax refund is receivable as the company has no taxable losses in the previous three years. A deferred income tax asset of CAD 87,500 (CAD 350,000 x 25%) is recognized as it is probable that the loss carryforwards will be recognized in the future.

**2019**

Income taxes of CAD 50,000 (CAD 200,000 x 25%) would have been payable without the loss carryforward. No income taxes are payable as a portion of the deferred income tax asset of CAD 50,000 (CAD 200,000 x 25%) recognized last year is used to reduce the taxes payable to zero. A portion of the deferred income tax asset is removed from the balance sheet after it is used.

**2020**

Income taxes of CAD 62,500 (CAD 250,000 x 25%) would have been payable without the loss carryforward. Income taxes of CAD 25,000 (CAD 100,000 x 25%) are payable as the deferred income tax asset of CAD 37,500 (CAD 150,000 x 25%) recognized previously is used to reduce the taxes payable. The deferred income tax asset is eliminated.

**2021**

A tax refund of CAD 25,000 (100,000 x 25%) is receivable. The losses were carried back up to three years if there were sufficient profits. A deferred income tax asset of CAD 62,500 (CAD 250,000 x 25%) is recognized as it is probable that the loss carryforwards will be recognized in the future.

2.

The deferred income tax asset from the loss carryforward would only have been noted.

**Capitalizing Leases at Secure Transport**

(10)(2,263.19) = 22,631.90

22,631.90 + 22,631.90 ($\frac{1-(1+(\frac{.09}{12}))^{-119}}{(\frac{.09}{12})}$) = 1,800,000

1,800,000 / ((10) (180,000)) = 1.00 or 100%

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Balance** | **Payment** | **Interest1** | **Ending Balance2** |
| 1 | 1,800,000.00 | 22,631.90 | 13,330.26 | 1,790,698.36 |

1 (1,800,000.00 – 22,631.90) (.09/12) = 13,333.26

2 1,800,000.00 – 22,631.90 + 13,330.26 = 1,790,698.36

Note: Since the lease payment is made at the beginning of the period, it is first deducted from the beginning balance, and then interest is calculated on what remains. The ending balance is equal to the beginning balance minus the payment plus interest.

**Income Statement**

Interest expense 13,330.26

Depreciation expense1 10,000.00

**Property, Plant, and Equipment**

Equipment held under capital lease 1,800,000.00

Less: Accumulative depreciation 10,000.00

Net equipment held under capital lease 1,790,000.00

**Current Liabilities**

Obligation under capital lease 117,204.62

**Long-term Liabilities**

Obligation under capital lease 1,790,689.36

Less: Current portion 117,204.62

Net obligation2 1,673,484.74

1 1,800,000 / (15 x 12)

2 22,631.90 + 22,631.90 ($\frac{1-(1+(\frac{.09}{12}))^{-106}}{(\frac{.09}{12})}$)

Note: The asset is depreciated over 15 years because the company is taking possession of it at the end of the lease for CAD 0.00 as part of a bargain purchase option. The present value of the lease payments equals the full value of the asset**.**

**Capitalizing Leases at Wilson**

(2) (1,754.88) = 3,509.76

3,509.76 + 3,509.76 ($\frac{1-(1+(\frac{.08}{12}))^{-59}}{(\frac{.08}{12})}$) = 174,249.84

174,249.84 / ((2) (95,000)) = .92

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Balance** | **Payment** | **Interest** | **Ending Balance** |
| 1 | 174,249.84 | 3,509.76 | 1,138.27 | 171,878.35 |

**Income Statement**

Interest expense 1,138.27

Depreciation expense1 2,904.16

**Property, Plant, and Equipment**

Equipment held under capital lease 174,249.84

Less: Accumulative depreciation 2,904.16

Net equipment held under capital lease 171,345.68

**Current Liabilities**

Obligation under capital lease 29,721.75

**Long-term Liabilities**

Obligation under capital lease 171,878.35

Less: Current portion 29,721.75

Net obligation2 142,156.60

1 174,249.83 / (5 x 12)

2 3,509.76 + 3,509.76 ($\frac{1-(1+(\frac{.08}{12}))^{-46}}{(\frac{.08}{12})}$)

Note: The asset is depreciated over 5 years because that is the lease term, and the lessee is returning the asset at that time. The present value of the lease payments equals the value of the leased assets relating to the term of the lease only**.**

**Capitalizing Leases at Porta Power**

1.

(4) (3,585.97) = 14,343.88

14,343.88 + 14,343.88 ($\frac{1-(1+(\frac{.10}{12}))^{-95}}{(\frac{.10}{12})}$) = 953,160.40

953,160.40 / ((4) (238,300)) = 1.00 or 100%

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Balance** | **Payment** | **Interest** | **Ending Balance** |
| 1 | 953,160.40 | 14,343.88 | 7,823.47 | 946,639.99  |

**Income Statement**

Interest expense 7,823.47

Depreciation expense1 7,943.00

**Property, Plant, and Equipment**

Equipment held under capital lease 953,160.40

Less: Accumulative depreciation 7,943.00

Net equipment held under capital lease 945,217.40

**Current Liabilities**

Obligation under capital lease 82,615.41

**Long-term Liabilities**

Obligation under capital lease 946,639.99

Less: Current portion 82,615.41

Net obligation2 864,024.58

1 953,160.40 / (10 X 12)

2 14,343.88 + 14,343.88 ($\frac{1-(1+(\frac{.10}{12}))^{-82}}{(\frac{.10}{12})}$)

**Capitalizing Leases at Acme**

1.

2,000 + 2,000 ($\frac{1-(1+(\frac{.05}{12}))^{-23}}{(\frac{.05}{12})}$) = 45,777.75

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Balance** | **Payment** | **Interest** | **Ending Balance** |
| 1 | 45,777.75 | 2,000.00 | 182.41 | 43,960.16 |

**Income Statement**

Interest expense 182.41

Depreciation expense1 1,907.41

**Property, Plant, and Equipment**

Equipment held under capital lease 45,777.75

Less: Accumulative deprecation 1,907.41

Net equipment held under capital lease 43,870.34

**Current Liabilities**

Obligation under capital lease 22,410.96

**Long-term Liabilities**

Obligation under capital lease 43,960.16

Less: Current portion 22,410.96

Net obligation2 21,549.20

1 45,777.75 / (2 x 12)

2 2,000 + 2,000 ($\frac{1-(1+(\frac{.05}{12}))^{-10}}{(\frac{.05}{12})}$)

Note: The incremental borrowing rate was used because the rate implicit in the lease was not available.

**Define Benefit Plan at Springer**

1. The plan's funded status at the end of 2022 is a deficit of CAD 5,251.6. This equals the ending net defined benefit liability, which is the difference between the ending defined benefit obligation (DBO) of CAD 31,767.1 and the ending fair value of plan assets of CAD 26,515.5. The ending DBO is what is owed, and the ending plan assets are what have been accumulated to fund this obligation. The ending net defined benefit liability is disclosed as a long-term liability on the balance sheet.
2. Current service costs are the increase in the DBO resulting from the future benefits earned by employees for their service in the current period. Past service costs are the change in the DBO resulting from amendments to the plan’s promised benefits earned in previous years. Current service costs and past service costs are combined under IFRS and are referred to as service costs.
3. Net interest costs/income are calculated as the discount rate times the net defined benefit liability at the beginning of the year. Net interest costs occur when the plan has a deficit, and it is the cost to the company of deferring payment on the plan. Net interest income occurs when the plan has a surplus, and it is the income earned by prepaying the plan. Net interest cost equals CAD 300.4 at Springer, which is the beginning net defined benefit liability of CAD 5,482.4 times the discount rate of 5.48%.
4. Remeasurement costs result from 1) actuarial gains and losses and 2) the difference between the actual return and expected return on the plan assets when calculating net interest costs/income. The expected return on plan assets at Springer is the beginning fair value of plan assets of CAD 25,775.2 times the discount rate of 5.48%, which equals CAD 1,412.48. The actual return on plan assets was CAD 1,432.2, so the plan earned CAD 19.7 more than the expected return, which lowered the defined benefit plan costs. Remeasurement costs are included in OCI, not net income, to provide a more stable profit or loss figure as they are expected to net to zero over time. There were no actuarial losses or gains in 2022.
5. Springer must describe the components of the defined benefit plan cost in the notes to the financial statements. Service costs of CAD 250.8 and net interest costs of CAD 300.4 are classified as operating costs in calculating net income, while the remeasurement costs of CAD 19.7 are included in other comprehensive income (OCI) as it is assumed these amounts will cancel out over time. Net interest costs may be classified as non-operating interest expenses as they are the cost of not paying the liability on time.
6. The defined benefit plan cost equals the change in the net defined benefit liability, excluding the employer’s contributions. The net defined benefit liability at Springer declined by CAD 230.8 from CAD 5,482.4 to CAD 5,251.6. The net defined benefit liability declined because Springer made contributions of CAD 762.3, which is CAD 230.8 more than the defined benefit plan cost of CAD 531.5. By paying more than the defined benefit plan cost for 2022, the net benefit liability declined.
7. The DBO increases because of service costs and interest costs. It decreases by the amount of any benefits paid to the employees and increases/decreases because of actuarial losses/ gains.

Again, current service costs are the increase in the DBO resulting from the future benefits earned by employees for their service in the current period. Past service costs are the change in the DBO resulting from amendments to the plan’s promised benefits. Current service costs and past service costs are combined under IFRS and are referred to as service costs. Interest cost is the increase in the DBO due to the passage of time, as the employer is discounting the DBO at the discount rate for one less year. This is different from net interest costs/income, which is interest costs minus the expected return on plan assets. Actuarial losses or gains are changes in the DBO caused by changes to the actuarial assumptions.

Companies must reconcile the beginning and ending balances of the DBO in the notes to the financial statements. The DBO increased by CAD 509.5 from CAD 31,257.6 to 31,767.1 at Springer. Service costs were CAD 250.8, interest costs were CAD 1,712.9, and employee benefits of CAD -1,454.2 were distributed. Interest costs were calculated as the beginning DBO balance of CAD 31,257.6 times the discount rate of 5.48. There were no actuarial losses or gains.

1. The fair value of the defined benefit plan assets increases or decreases because of the actual returns or losses on the plan. It increases when employer contributions are made and falls when employee benefits are distributed.

Companies must reconcile the beginning and ending balances of the fair value of plan assets in the notes to the financial statements. The fair value of the plan assets increased by CAD 740.5 at Springer due to the actual return on plan assets of CAD 1,432.2 and employer contributions of CAD 762.3, but fell when CAD 1,454.2 in benefits were paid to employees.

9. When benefits are paid to the employees from the defined benefit plan’s assets, the DBO and fair value of plan assets fall by the same amount, so the net defined benefit liability remains the same.

10.

|  |  |
| --- | --- |
| **Change in Assumption** | **Impact on Balance Sheet** |
| Increase in the discount rate | Lower obligation as the present value of future benefits is calculated using a lower rate. |
| Decrease in the rate of compensation increase | Lower obligation as future benefits will be reduced. |
| Increase in employee life expectancy | Higher obligation as participants will receive benefits for a longer period. |
| Reduction in the vesting period | Higher obligation as more employees will qualify for benefits. |
| Elimination of early retirement provisions | Lower obligation as employees will work longer before receiving benefits. |
| Decrease in the average remaining working life | Higher obligation as employees will receive benefits earlier. |

11. A concurrent increase in the discount rate and a decrease in the rate of compensation increase could indicate a reporting quality issue at Springer. Both these changes lower the DBO, which benefits the company, but these rates usually move in the same direction. Generally, the discount rate rises and falls with inflation, as does the rate of compensation increase. IFRS specifies that the discount rate is equal to the current yield on high-quality corporate bonds to prevent companies from lowering their DBO by using a higher discount rate. The bonds used should have the same currency and duration as the benefit plan to provide an accurate rate. Analysts must always investigate whether a company’s actuarial assumptions are consistent.

**Defined Benefit Plan at Chapman**

1.

|  |  |
| --- | --- |
| **CAD (000)** | **2022**  |
| **Defined benefit plan cost** |  |
|  Service costs | 384 |
|  Net interest costs1 | 252 |
|  Remeasurements2 | 558 |
|  Total | 1,194 |
|  |  |
| **Change in defined benefit obligation** |  |
| Beginning benefit obligation | 50,400 |
|  Service costs | 384 |
|  Interest costs3 | 3,528 |
|  Benefits paid | -4,770 |
|  Actuarial losses | 522 |
| Ending benefit obligation | 50,064 |
|  |  |
| **Change in defined benefit plan assets** |  |
| Beginning fair value of plan assets | 46,800 |
|  Actual return on plan assets | 3,240 |
|  Employer contributions | 1,200 |
|  Benefits paid | -4,770 |
| Ending fair value of plan assets | 46,470 |
|  |  |
| **Beginning net defined benefit liability4** | 3,600 |
| **Ending net defined benefit liability5** | 3,594 |

1 (3,600) (.07) = 252

2 (3,240 – (46,800) (.07)) + (-522)) = 558

3 (50,400) (.07) = 3,528

4 50,400 – 46,800 = 3,600

5 50,064 – 46,470 = 3,594

The defined benefit plan cost is CAD 1,194. The service costs of CAD 384 and the net interest costs of CAD 252 are included in net income, while the remeasurement costs of CAD 558 are included in other comprehensive income.

The ending net defined benefit liability for 2022 is CAD 3,594. This is presented as a long-term liability.

1. The net defined benefit liability declined CAD 6.0 from CAD 3,600 to CAD 3,594. The net defined benefit liability declined because Chapman made contributions of CAD 1,200.0, which is CAD 6.0 more than the pension benefit cost of CAD 1,194. By paying CAD 6.0 more than the defined benefit cost of CAD 1,194 for 2022, the net benefit liability declined by CAD 6.0.

**Amortized Cost Using the Effective Interest Rate Method**

1.

January 1, 2018 Cash 100,000

 Term loan 100,000

January 31, 2018 Term loan 577.75

through Interest expense 583.33

December 31, 2018 Cash 1,161.08

100,000 = P ($\frac{1-(1+ \frac{.07}{12})^{-120}}{\frac{.07}{12}}$)

P = 1,161.08

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Principal** | **Interest****(.07/12)** | **Principal** | **Ending****Principal** |
| 1 | 100,000 | 583.33 | 577.75 | 99,422.25 |
| 2 | 99,422.25 | 579.96 | 581.12 | 98,841.14 |
| 3 | 98,841.14 | 576.57 | 584.51 | 98,256.63 |
| 4 | 98,256.63 | 573.16 | 587.92 | 97,668.71 |
| 5 | 97,668.71 | 569.73 | 591.35 | 97,077.37 |
| 6 | 97,077.37 | 566.28 | 594.80 | 96,482.57 |
| 7 | 96,482.57 | 562.82 | 598.26 | 95,884.31 |
| 8 | 95,884.31 | 559.33 | 601.75 | 95,282.55 |
| 9 | 95,282.55 | 555.81 | 605.27 | 94,677.29 |
| 10 | 94,677.29 | 552.28 | 608.80 | 94,068.49 |
| 11 | 94,068.49 | 548.73 | 612.35 | 93,456.14 |
| 12 | 93,456.14 | 545.16 | 615.92 | 92,840.23 |

2.

**Current Liabilities**

Current portion of long-term debt1 7,677.83

**Long-term Liabilities**

Long-term debt 92,840.23

Less: Current portion 7,677.83 85,162.40

1 1,161.08 ($\frac{1-(1+ \frac{.07}{12})^{-96}}{\frac{.07}{12}}$) = 85,162.40

92,840.23 – 85,162.40 = 7,677.83

**Subsidized Loans at Niverville**

1.

November 1, 2023 Equipment 1,323,055.35

 Term loan payable 948,055.35

 Chequing 375,000.00

**Note:** The equipment’s fair value is recorded at the down payment and the present value of the term loan payments at the market rate.

November 30, 2023 Term loan payable 4,121.29

 Interest expense 9,480.55

 Chequing 13,601.84

December 31, 2023 Term loan payable 4,162.50

 Interest expense 9,439.34

 Chequing 13,601.84

0.04 = (1 + i)6 – 1

i = 0.0066

1,125,000 = P ($\frac{1-(1+ .0066)^{-120}}{.0066}$)

P = 13,601.84

A = 13,601.84 ($\frac{1-(1+ .12/12)^{-120}}{.12/12}$)

A = 948,055.35

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Period** | **Beginning Principal** | **Interest****(.12/12)** | **Principal** | **Ending****Principal** |
| 1 | 948,055.34 | 9,480.55 | 4,121.29 | 943,934.06 |
| 2 | 943,934.06 | 9,439.34 | 4,162.50 | 939,771.56 |

**Liquidity Risk at George Weston**

1. George Weston’s long-term liabilities are laddered evenly over the next five years, posing no apparent repayment. The company’s primary concern is financing its credit card receivables, which are managed by its PC Bank unit. PC Bank securitizes and sells these receivables to independent investors but has a significant ownership stake in these trusts. They use demand deposits and GICs with PC Bank customers to fund their co-ownership stake. If their securitization program faltered or they had difficulties raising funds to finance their stake, they would experience liquidity problems.
2. Securitization agreements between PC Bank and the income trusts are renewed and extended annually. George Weston also provides a standby letter of credit with major banks that can be used by the income trusts if there is a significant decline in the income from the securitized credit card receivables. Trusts are overcollaterized with credit card receivables equal to 107% of the liability, and George Weston guarantees a portion of any credit losses.

**Fair Value Hedge at Oil Distribution**

1.

|  |
| --- |
| **Fair Value of Futures Contract** |
| September | (40 - 41) (2,000,000) | 2,000,000 loss | 2,000,000 liability |
| October | (41 - 38) (2,000,000) | 6,000,000 gain | 4,000,000 asset |
| November | (38 - 34) (2,000,000) | 8,000,000 gain | 12,000,000 asset |

September Loss on futures contract 2,000,000

 Futures asset/liability 2,000,000

October Futures asset/liability6,000,000

 Gain on futures contract 6,000,000

November Futures asset/liability 8,000,000

 Gain on futures contract 8,000,000

 Cash 12,000,000

 Futures asset/liability 12,000,000

 Cost of sales1 80,000,000

 Inventory 80,000,000

 1(2,000,000) (40)

Cash1  68,000,000

 Sales 68,000,000

 1(2,000,000) (34)

**Note:** Monthly net income will vary because the gains and losses on the hedging instrument are recognized over the contract’s life, while the change in the fair value of the hedged item is recognized when it is used. Hedge accounting can be adopted to reduce the variability of net income.

2.

September Loss on futures contract 2,000,000

 Futures asset/liability 2,000,000

 Inventory 2,000,000

 Gain on inventory 2,000,000

**Note:** Loss and gain on the hedging instrument and hedged item cancel out, resulting in more stable net income. The fair values of the hedging instrument and hedged item are adjusted, providing a more accurate balance sheet.

October Futures asset/liability 6,000,000

 Gain on futures contract 6,000,000

 Loss on inventory 6,000,000

 Inventory 6,000,000

**Note:** Loss and gain on the hedging instrument and hedged item cancel out, resulting in more stable net income. The fair values of the hedging instrument and hedged item are adjusted, providing a more accurate balance sheet.

November Futures asset/liability 8,000,000

 Gain on futures contract 8,000,000

 Loss on inventory 8,000,000

 Inventory 8,000,000

**Note:** Loss and gain on the hedging instrument and hedged item cancel out, resulting in more stable net income. The fair values of the hedging instrument and hedged item are adjusted, providing a more accurate balance sheet.

 Cash 12,000,000

 Futures asset/liability 12,000,000

 Cost of sales1 68,000,000

 Inventory 68,000,000

 1(2,000,000) (34)

Cash1  68,000,000

 Sales 68,000,000

 1(2,000,000) (34)

**Note:** Losses and gains on the hedging instrument and hedged item have been averaged out, resulting in more stable net income. Recognition of the loss on the hedged item was not deferred to when the item was used.

**Cash Flow Hedge at Harris**

1.

|  |
| --- |
| **Fair Value of Futures Contract** |
| September | (618 - 614) (10,000) | 40,000 gain | 40,000 asset |
| October | (626 - 618) (10,000) | 80,000 gain | 120,000 asset |
| November | (624 - 628) (10,000) | 40,000 loss | 80,000 asset |

 January Futures asset/liability 40,000

 Other comprehensive income 40,000

 February Futures asset/liability 80,000

 Other comprehensive income 80,000

 March Other comprehensive income 40,000

 Futures asset/liability 40,000

 Cash 80,000

 Futures asset/liability 80,000

 Inventory1 6,240,000

 Cash 6,240,000

 1 (624) (10,000)

 April Cost of sales1 2,496,000

 Inventory 2,496,000

 1(10,000) (.4) (624)

 Other comprehensive income1 32,000

 Cost of sales 32,000

 1(.4) (80,000)

 May Cost of sales1 3,774,000

 Inventory 3,774,000

 1(10,000) (.6) (624)

 Other comprehensive income1 48,000

 Cost of sales 48,000

 1(.6) (80,000)

 **Note:** Net income is more stable by recording the gains or losses on the hedging instrument in other comprehensive income. When the inventory is eventually purchased and sold, the cost of sales is reduced by the prorated amount of the gains and losses in other comprehensive income, reflecting the benefits from the hedge.

**Convertible Bonds at Grayson**

1.

(15,000,000) (1.12310) = 16,846,500.00

P0 = 1361,500 ($\frac{1-(1+(\frac{.052}{2}))^{-20}}{\left(\frac{.052}{2}\right)}$) + $\frac{15,000,000}{(1+(\frac{.052}{2}))^{20}}$ = 14,559,877.05

1(15,000,000) ($\frac{.0482}{2}$)

16,846,500.00 – 14,559,877.05 = 2,286,622.95

Debt component – CAD 14,559,877.05 at a current market rate of 5.20%, semi-annual

Equity component – CAD 2,286,622.95

**Classification of Financial Instruments as Liabilities or Equities**

1. Classified as **equity** because preferred share dividends can be delayed indefinitely, and there are no required sinking fund payments.
2. Classified as **equity** because preferred share dividends can be delayed indefinitely, and there are no required sinking fund payments. The preferred share dividends are cumulative, so common shareholders cannot receive a dividend until all dividends in arrears are paid. If the company is experiencing financial distress, these dividends can still be delayed as long as necessary.
3. Classified as **debt** because the preferred share dividends must be paid if the holder chooses. The company can be forced into bankruptcy if it does not pay.
4. Classified as **debt** because the preferred shares have required sinking fund payments. If the sinking fund payments only had to be paid on a best-efforts basis, the payments would not be required, and the preferred shares would be classified as **equity**.
5. Classified as **debt** because the dividend grows over time, and eventually the company will have no choice but to buy back these shares if it is to survive.
6. Classified as **debt** because the interest must be paid even though the bonds have an unlimited life.
7. Classified as **equity** because interest payments are not guaranteed and are subordinate to other debt instruments. Principal payments are not guaranteed and are subordinate to all other bondholders. These bonds have the same characteristics as common shares.
8. Classified as **equity** because the interest and principal payments can be settled by issuing common equity, which does not have any required payments.
9. Classified as **debt** because BEP’s shareholders can force the company to redeem their shares for cash at any time.

**Stock Options at Emerson**

1.

|  |  |  |
| --- | --- | --- |
| 2014 | (900,000) (17.15) (.97) (.97) (.97) (1/3)  | 4,695,703 |
| 2015 | (900,000) (17.15) (.94) (.94) (.94) (2/3) | 8,546,709 |
| 2016 | (900,000) (17.15) (.94) (.94) (.94) (3/3) | 12,820,064 |

2014 Compensation expense 4,695,703

 Contributed surplus 4,695,703

2015 Compensation expense 3,851,006

 Contributed surplus 3,851,006

 1 (8,546,709 - 4,695,703)

2016 Compensation expense 4,273,355

 Contributed surplus 4,273,355

1 (12,820,064 – 8,546,709)

Cash 37,376,280

Contributed surplus 12,820,064

 Common shares 50,196,371

 1 (900,000) (.94) (.94) (.94) (50) = 37,376,280

Note: Contributed surplus is an equity account containing the value of the stock options until the shares are issued at the end of the vesting period.

This is an equity-settled share-based compensation arrangement, so the credit is to an equity and not a liability account.

**Stock Appreciation Rights at Jones**

1.

|  |  |  |
| --- | --- | --- |
| 2014 | (50 – 43) (200,000) (1/3) | 466,667 |
| 2015 | (48 – 43) (200,000) (2/3) | 666,667 |
| 2016 | (52 – 43) (200,000) (3/3) | 1,800,000 |

2014 Compensation expense 466,667

 SAR payable 466,667

2015 Compensation expense 200,000

 SAR payable 200,000

 1 (666,667 – 466,667)

2016 Compensation expense 1,133,333

 SAR payable 1,133,333

1 (1,800,000 - 666,667)

SAR payable 1,800,000

 Cash 1,800,000

2.

 2016 SAR payable 666,667

 Compensation expense 666,667

1 (0 – 666,667)

Note: This is a cash-settled, share-based compensation arrangement, so the credit is to a liability and not an equity account.

**Restricted Shares at Rebel**

1.

|  |  |  |
| --- | --- | --- |
| 2014 | (300,000) (50) (.97) (.97) (.97) (1/3)  | 4,563,365 |
| 2015 | (300,000) (50) (.96) (.96) (.96) (2/3) | 8,847,360 |
| 2016 | (300,000) (50) (.96) (.96) (.96) (3/3) | 13,271,040 |

2014 Compensation expense 4,563,365

 Contributed surplus 4,563,365

2015 Compensation expense 4,283,995

 Contributed surplus 4,283,995

 1 (8,847,360 - 4,563,365)

2016 Compensation expense 4,423,680

 Contributed surplus 4,423,680

1 (13,271,040 – 8,847,360)

Contributed surplus 13,271,040

 Common shares 13,271,040

**Deferred Share Units at Cascade**

1. 74,438.24 DSUs

|  |  |  |
| --- | --- | --- |
| **Transaction Date** | **Shares Issued1** | **Cumulative Total** |
| January 2 | 53,398.06 | 53,398.06 |
| January 2 | 13,349.51 | 66,747.57 |
| March 31 | 1,907.07 | 68,654.64 |
| June 30 | 1,855.53 | 70,510.17 |
| September 30 | 1,986.20 | 72,496.37 |
| December 31 | 1,941.87 | 74,438.24 |

1(550,000 / 10.30) = 53,398.06

(53,398.06) (.25) = 13,349.51

(66,747.57) (.30) / 10.50 = 1,907.07

(68,654.64) (.30) / 11.10 = 1,855.53

(70,510.17) (.30) / 10.65 = 1,986.20

(72,496.37) (.30) / 11.20 = 1,941.87

1. Williams may have converted her annual bonus into DSUs instead of buying shares directly because of the 25% match by the company. Also, dividends were received as extra DSUs, so there was no difference compared to owning actual shares.
2. Cascade may want to increase Williams’ level of share ownership to provide a greater incentive to maximize its share price.