CHAPTER 14

LONG-TERM FINANCIAL LIABILITIES

ASSIGNMENT CLASSIFICATION TABLE

Topics	Brief Exercises	Exercises	Problems	Writing Assignment
1. Understand the nature of long-term debt.	1, 2	1, 2	1, 2	6
2. Understand how long-term debt is measured and accounted for.	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18	1, 2, 3, 4, 5, 6, 7, 8, 9	3, 6
3. Recognition and derecognition of debt and debt restructurings.	19, 20, 21	17, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29	10, 11, 12, 13, 14, 15, 16, 17	1, 4
4. Presentation of long-term debt.	24	16, 18, 30, 31	2, 9	3
5. Disclosure requirements.		32	8	
6. Long-term debt analysis.	25		7	2
7. Differences between ASPE and IFRS.				5

NOTE: If your students are solving the end-of-chapter material using a financial calculator or an Excel spreadsheet as opposed to the PV tables, please note that there will be a difference in amounts. Excel and financial calculators yield a more precise result as opposed to PV tables. The amounts used for the preparation of journal entries in solutions have been prepared from the results of calculations arrived at using the PV tables.

ASSIGNMENT CHARACTERISTICS TABLE

Item	Description	Level of Difficulty	Time (minutes)
E14-1	Features of long-term debt.	Simple	10-15
E14-2	Information related to various bond issues.	Simple	20-30
E14-3	Entries for bond transactions.	Simple	15-20
E14-4	Entries for bond transactions—effective interest.	Simple	15-20
E14-5	Entries for bond transactions—straight-line.	Simple	15-20
E14-6	Entries for noninterest-bearing debt.	Simple	15-20
E14-7	Imputation of interest.	Simple	15-20
E14-8	Instalment note.	Moderate	15-20
E14-9	Purchase of equipment with noninterest-bearing debt.	Moderate	15-20
E14-10	Purchase of equipment with noninterest-bearing debt.	Moderate	15-20
E14-11	Entries for bond transactions.	Moderate	15-20
E14-12	Amortization schedule—straight-line.	Simple	15-20
E14-13	Amortization schedule—effective interest.	Simple	15-20
E14-14	Determine proper amounts in account balances.	Moderate	15-20
E14-15	Government interest free loan	Moderate	15-20
E14-16	Entries and questions for bond transactions.	Moderate	20-30
E14-17	Entries for retirement of bonds.	Simple	10-15
E14-18	Entries for retirement and issuance of bonds – straight line.	Simple	15-20
E14-19	Entries for retirement and issuance of bonds – effective interest.	Complex	30-35
E14-20	Entry for retirement of bond; bond issue costs.	Simple	15-20
E14-21	Entries for retirement and issuance of bonds.	Simple	15-20
E14-22	Impairments.	Moderate	15-25
E14-23	Settlement of debt.	Moderate	15-20
E14-24	Term modification debtor’s entries.	Moderate	20-30
E14-25	Term modification creditor’s entries.	Moderate	25-30
E14-26	Settlement debtor’s entries.	Moderate	25-30
E14-27	Settlement creditor’s entries.	Moderate	20-30
E14-28	Debtor/creditor entries for modification of troubled debt.	Moderate	20-25

ASSIGNMENT CHARACTERISTICS TABLE (Continued)

Item	Description	Level of Difficulty	Time (minutes)
E14-29	Debtor/creditor entries for settlement of troubled debt.	Simple	15-20
E14-30	Classification of liabilities	Simple	15-20
E14-31	Classification.	Simple	15-20
E14-32	Long-term debt disclosure.	Simple	10-15
P14-1	Entries for noninterest-bearing debt; payable in instalments.	Moderate	20-25
P14-2	Contrasting note terms.	Complex	40-50
P14-3	Analysis of amortization schedule and interest entries.	Simple	15-20
P14-4	Issuance and retirement of bonds.	Moderate	25-30
P14-5	Comprehensive bond problem.	Complex	50-65
P14-6	Issuance of bonds between interest dates, straight-line, retirement.	Complex	30-35
P14-7	Entries for noninterest-bearing debt.	Simple	15-25
P14-8	Issuance and retirement of bonds; income statement presentation.	Simple	15-20
P14-9	Comprehensive problem; issuance, classification, reporting.	Moderate	20-25
P14-10	Issuance of bonds between interest dates, effective interest, retirement.	Complex	30-35
P14-11	Entries for life cycle of bonds.	Moderate	20-25
P14-12	Loan impairment entries.	Moderate	30-40
P14-13	Debtor/creditor entries for continuation of troubled debt.	Moderate	15-25
P14-14	Restructure of note under different circumstances.	Complex	40-50
P14-15	Debtor/creditor entries for continuation of troubled debt.	Complex	40-50
P14-16	Entries for troubled debt restructuring.	Moderate	30-35
P14-17	Debtor/creditor entries for continuation of troubled debt with new effective interest.	Complex	40-50

SOLUTIONS TO BRIEF EXERCISES

BRIEF EXERCISE 14-1

(a) A bond's credit rating is a reflection of credit quality. The BBB- credit rating of the bond at the time of issuance reflected an assessment of the company's ability to pay the amounts that will be due on that specific bond. With four consecutive quarters of increasing losses and deteriorating financial position in 2014, and new competition in the industry, credit analysts may downgrade the bond's credit rating to below investment grade.

(b) The market closely monitors a bond's credit rating when determining the required yield and pricing of bonds at issuance and in periods after issuance. If the bond's credit rating is downgraded, the yield required by investors will likely increase, and the price of the bonds will likely decrease, to compensate the bondholder for the additional risk associated with that specific bond.

BRIEF EXERCISE 14-2

(a) Financing is generally obtained through three sources: borrowing, issuing shares, and/or using internally generated funds. Leverage (or using borrowed money to increase returns to shareholders) can maximize returns to shareholders, and the related interest paid is tax deductible. However, borrowed funds must be repaid and can increase liquidity and solvency risk. Issuing shares does not increase liquidity and solvency risk; however it may result in dilution of ownership. Using internally generated funds may be appropriate if the company's business model is generating excess funds.

(b) Based on the information provided, borrowing is the most suitable source of financing for Dowty. With a debt to total assets ratio of 55%, Dowty is underleveraged compared to similar size competitors operating in the same industry. This means that Dowty may not be maximizing returns to shareholders, and that Dowty may be able to finance the expansion by borrowing and still maintain an acceptable level of liquidity and solvency risk. As a telecommunications equipment manufacturer, Dowty operates in a capital intensive industry, and a lender may be able to structure the lending agreement in such a way as to secure the loan with the company's underlying tangible assets.

BRIEF EXERCISE 14-3

Present value of the principal	
$500,000 X .37689	**$188,445**
Present value of the interest payments	
$27,500 X 12.46221	**342,711**
Issue price	**$531,156**

Excel formula:
=PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**?**	**Yields $ 531,156**
I	**5%**	
N	**20**	
PMT	**$ (27,500)**	
FV	**$ (500,000)**	
Type	**0**	

BRIEF EXERCISE 14-4

(a)	**Cash**	**300,000**	
	Notes Payable		**300,000**
(b)	**Interest Expense**	**24,000**	
	Cash ($300,000 X 8%)		**24,000**

BRIEF EXERCISE 14-5

(a)

Present value of the principal	
$200,000 X .74409	**$148,818**
Present value of the interest payments	
$8,000 X 8.53020	**68,242**
Issue price	**$217,060**

Excel formula:
=PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**?**	**Yields $ 217,060.14**
I	**3%**	
N	**10**	
PMT	**$ (8,000)**	
FV	**$ (200,000)**	
Type	**0**	

(b)	**Cash**	**217,060**	
	Bonds Payable		**217,060**
(c)	**Interest Expense ($217,060 X 6% X 6/12)**	**6,512**	
	Bonds Payable ($8,000 – $6,512)	**1,488**	
	Cash ($200,000 X 8% X 6/12)		**8,000**
	Interest Expense [($217,060 – $1,488) X 6% X 6/12]	**6,467**	
	Bonds Payable ($8,000 – $6,467)	**1,533**	
	Cash ($200,000 X 8% X 6/12)		**8,000**

BRIEF EXERCISE 14-6

(a)	Cash	47,664	
	Notes Payable.....		47,664
(b)	Interest Expense ($47,664 X 12%).....	5,720	
	Notes Payable.....		5,720

(c)
Using a financial Calculator:

FV =	$(75,000)	
n =	4	
PMT =	0	
i =	12%	Calculate
PV =	$47,664	

(d)

Schedule of Discount Amortization
Effective Interest Method (12%)

Date	12% Interest Expense	Discount Amortized	Carrying Amount
Jan. 1 2014			$47,664.00
Dec. 31 2014	$5,719.68	$5,719.68	53,383.68
Dec. 31 2015	6,406.04	12,125.72	59,789.72
Dec. 31 2016	7,174,77	19,300.49	66,964.49
Dec. 31 2017	* 8,035.51	27,336.00	75,000.00
	$27,336.00	$27,336.00	

* rounded

BRIEF EXERCISE 14-7

(a)	Equipment.....	38,912	
	Notes Payable.....		38,912
(b)	Interest Expense.....	4,280*	
	Cash		2,500**
	Notes Payable.....		1,780

*($38,912 X 11.00% = $4,280)

**($50,000 X 5% = $2,500)

Using a financial calculator:

PV	$ 38,912	
I	?	Yields 11.00% (rounded to 2 decimal places)
N	5	
PMT	$(2,500)	
FV	$ (50,000)	
Type	0	

BRIEF EXERCISE 14-8

Cash	140,000	
Notes Payable.....		102,904
Unearned Revenue.....		37,096

[$140,000 – ($140,000 X .73503 = $102,904)] = $37,096

Excel formula: =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	?	Yields $ 102,904
I	8%	
N	4	
PMT	0	
FV	$ (140,000)	
Type	0	

BRIEF EXERCISE 14-9

The relevant interest rate to be imputed on the instalment note is the rate Pflug would pay at its bank of 11%

Using Ordinary Annuity Tables for 11% for two periods, the factor of 1.71252 is used and divided into the present value amount of $40,000 to arrive at the amount of the equal instalment payment of $23,357.39

Excel formula = PMT(rate,nper,pv,fv,type)

Using a financial calculator:

PV	$ (40,000)	
I	11%	
N	2	
PMT	?	Yields $ (23,357.35)
FV	$ 0	
Type	0	

BRIEF EXERCISE 14-10

(a)	Cash ($500,000 – $25,000)	475,000	
	Bonds Payable		475,000
(b)	Interest Expense ($40,000* + $2,500**) ..	42,500	
	Bonds Payable		2,500
	Cash*		40,000

* $500,000 X 8% = $40,000
** $25,000 issue cost X 1/10 = $2,500

(c) When a note or bond is issued, it should be recognized at fair value adjusted by any directly attributable issue costs. However, note that where the liability will subsequently be measured at fair value (e.g., under the fair value option or because it is a derivative), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

BRIEF EXERCISE 14-11

(a)	Cash	300,000	
	Bonds Payable		300,000
(b)	Interest Expense.....	15,000	
	Cash ($300,000 X 10% X 6/12).....		15,000
(c)	Interest Expense.....	15,000	
	Interest Payable.....		15,000

BRIEF EXERCISE 14-12

(a)	Cash ($300,000 X .98)	294,000	
	Bonds Payable		294,000
(b)	Interest Expense	15,600	
	Cash ($300,000 X 10% X 6/12)		15,000
	Bonds Payable		600
	($6,000 X 1/5 X .5 = $600)		
(c)	Interest Expense	15,600	
	Interest Payable		15,000
	Bonds Payable		600

BRIEF EXERCISE 14-13

(a)	Cash ($300,000 X 1.03 = $309,000)	309,000	
	Bonds Payable		309,000
(b)	Interest Expense	14,100	
	Bonds Payable ($9,000 X 1/5 X .5)	900	
	Cash ($300,000 X 10% X 6/12)		15,000
(c)	Interest Expense	14,100	
	Bonds Payable	900	
	Interest Payable		15,000

BRIEF EXERCISE 14-14

(a)	Cash	721,000	
	Bonds Payable		700,000
	Interest Expense		21,000
	($700,000 X 9% X 4/12 = $21,000)		
(b)	Interest Expense.....	31,500	
	Cash		31,500
	.....		
	($700,000 X 9% X 6/12 = $31,500)		
(c)	Interest Expense.....	31,500	
	Interest Payable.....		31,500

BRIEF EXERCISE 14-15

(a)	Cash	559,229	
	Bonds Payable		559,229
(b)	Interest Expense.....	22,369	
	Cash		21,000
	Bonds Payable		1,369
(c)	Interest Expense	22,424	
	Interest Payable.....		21,000
	Bonds Payable		1,424

(d)
Using a Financial Calculator:

FV =	(600,000)	Given
n =	20	10 years X 2
PMT =	(21,000)	Face X 7% X 6/12
i =	4.0%	Calculate
PV =	559,229	Given

(e)

Schedule of Discount Amortization
Effective Interest Method (4%)

Date	3.5% Cash Paid	4.0% Interest Expense	Discount Amortized	Carrying Amount
Jan. 1 2014				$559,229.00
July 1 2014	$21,000.00	$22,369.16	$1,369.16	560,598.16
Jan. 1 2015	21,000.00	22,423.93	1,423.93	562,022.09
July 1 2015	21,000.00	22,480.89	1,480.89	563,502.97

BRIEF EXERCISE 14-16

(a)	Cash	644,635	
	Bonds Payable		644,635
(b)	Interest Expense.....	19,339	
	Bonds Payable.....	1,661	
	Cash		21,000
(c)	Interest Expense.....	19,289	
	Bonds Payable.....	1,711	
	Interest Payable.....		21,000

(d)
Using a Financial Calculator:

FV =	(600,000)	Given
n =	20	10 years X 2
PMT =	(21,000)	Face X 7% X 6/12
i =	3.0%	Calculate
PV =	664,635	Given

(e)

Schedule of Premium Amortization
Effective Interest Method (3%)

Date		3.5% Cash Paid	3.0% Interest Expense	Premium Amortized	Carrying Amount
Jan. 1	2014				$644,635.00
July 1	2014	$21,000.00	$19,339.05	$1,660.95	642,974.05
Jan. 1	2015	21,000.00	19,289.22	1,710.78	641,263.27
July 1	2015	21,000.00	19,237.90	1,762.10	639,501.17

BRIEF EXERCISE 14-17

Interest Expense.....	6,446*	
Bonds Payable.....	1,554	
Interest Payable.....		8,000**

* ($644,636 X 6% X 2/12 = $6,446)
** ($600,000 X 8% X 2/12 = $8,000)

BRIEF EXERCISE 14-18

(a)	Interest Expense ($1,000,000 X 7%).....	70,000	
	Cash		70,000
	Bonds Payable ($1,000,000 - $900,000) ..	100,000	
	Unrealized Gain or Loss		100,000
(b)	Interest Expense ($1,000,000 X 7%).....	70,000	
	Cash		70,000
	Bonds Payable ($1,000,000 - $900,000) ..	100,000	
	Unrealized Gain or Loss		100,000
(c)	Interest Expense ($1,000,000 X 7%).....	70,000	
	Cash		70,000
	Bonds Payable ($1,000,000 - $900,000) ..	100,000	
	Unrealized Gain or Loss- OCI		100,000

BRIEF EXERCISE 14-19

Bonds Payable ($500,000 + $9,750)	509,750	
Cash ($500,000 X .99).....		495,000
Gain on Redemption of Bonds		14,750

BRIEF EXERCISE 14-20

This is a situation where a currently maturing liability (a current liability) at year end is expected to be refinanced on a long-term basis.

Under IFRS, this loan liability is required to be reported as a current liability on the December 31 financial statements because it was not refinanced by the reporting date. The only exception permitted would be if the refinancing that extends the repayment terms was done under an agreement that existed at December 31 and the decision about the refinancing is solely up to the discretion of the entity's management.

The ASPE standard, however, allows a little more flexibility. The maturing debt is required to be reported as a current liability unless it has been refinanced on a long-term basis or there is a non-cancellable agreement to do so before the financial statements are completed, and there is nothing that prevents completion of the refinancing. Because the entity's financial statements would not have been completed as soon as two days after the reporting date (December 31) when the new agreement was finalized, ASPE would permit the debt to be included with long-term liabilities.

BRIEF EXERCISE 14-21

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the old debt, the renegotiated debt is considered a settlement. A gain/loss is recorded by Lawrence (debtor) and no interest is recorded by the debtor. This is not considered a modification of terms. The old debt is removed from the books of Lawrence with a gain/loss being recognized, and the new debt is recorded.

2014	**Notes Payable**	**100,000**	
	Gain on Restructuring of Debt		**27,603**
	Notes Payable		**72,397**
2015	**Interest Expense ($72,397 X .10)**	**7,240**	
	Notes Payable		**1,240**
	Cash (8% X $75,000)		**6,000**
2016	**Interest Expense**	**7,363**	
	Notes Payable		**1,363**
	Cash		**6,000**
	($72,397 + $1,240) X .10 = $7,363		
2016	**Notes Payable**	**75,000**	
	Cash		**75,000**

BRIEF EXERCISE 14-22

(a) Steinem's liquidity has improved. As a result of this transaction, the company's statement of financial position will show $1 million more cash, and $1 million less accounts receivable (a less liquid asset than cash).

(b) Steinem's statement of financial position will not show increased debt or equity as a result of this transaction. The cash was generated by the special purpose entity, which sold shares to its investors.

(c) This transaction is an example of off-balance-sheet financing. From the perspective of an investor, there is a risk that the special purpose entity is being used primarily to make Steinem's statement of financial position and liquidity position appear better. As a general rule, special purpose entities should be consolidated with the main company when the main company is the primary beneficiary.

BRIEF EXERCISE 14-23

Current liabilities	
Bond interest payable	**$ 80,000**
Long-term liabilities	
Bonds payable, due January 1, 2022	**$1,912,000**

BRIEF EXERCISE 14-24

(a)

Ling Corporation
Partial Statement of Financial Position
As at December 31, 2014

Liabilities	
Accounts payable	**$ 20,000**
Long-term debt	**100,000**
Bonds payable	**200,000**
Total liabilities	**$320,000**

Note: the amounts to be paid or recovered within the next 12 months should be disclosed.

(b)

Ling Corporation
Partial Statement of Financial Position
As at December 31, 2014

Liabilities	
Current	
Accounts payable	**$20,000**
Current portion of long-term debt	**20,000**
Total current liabilities	**40,000**
Long-term	
Long-term debt	**80,000**
Bonds payable	**200,000**
Total long-term liabilities	**280,000**
Total liabilities	**$320,000**

BRIEF EXERCISE 14-25

Debt-paying ability may be evaluated by calculating the debt to total assets ratio:

2014 - $1 million / $2 million = 50.0%
2015 - $1.2 million / $2.2 million = 54.5%

Based on Beckers' debt to total assets ratio, the company's debt-paying ability and long-run solvency declined in 2015, compared to 2014.

SOLUTIONS TO EXERCISES

EXERCISE 14-1 (10-15 minutes)

(a)

1. ii
2. iii
3. ii
4. ii
5. i
6. ii
7. ii
8. i

(b) A feature or characteristic that increases the riskiness of the long-term debt will cause investors to require a higher yield on the long-term debt. A higher yield on the long-term debt will give investors an acceptable return that matches the issuer's risk characteristics.

EXERCISE 14-2 (20-30 minutes)

		Unsecured Bonds	Zero Coupon Bonds	Mortgage Bonds
(a)	Maturity value	$10,000,000	$2,500,000	$15,000,000
(b)	Number of interest periods	40	10	10
(c)	Stated rate per period	3.25% (13% / 4)	0	10%
(d)	Effective rate per period	3% (12% / 4)	12%	12%
(e)	Payment amount per period	$325,000 (1)	0	$1,500,000 (2)
(f)	Present value	$10,577,900 (3)	$804,925 (4)	$13,304,880 (5)

(1) $10,000,000 X 13% X 1/4 = $325,000
(2) $15,000,000 X 10% = $1,500,000
(3) Present value of an annuity of $325,000 discounted at 3% per period for 40 periods ($325,000 X 23.11477) = $ 7,512,300
Present value of $10,000,000 discounted at 3% per period for 40 periods ($10,000,000 X .30656) = 3,065,600
$10,577,900

Using a financial calculator:

PV	$?	Yields $10,577,869
I	3%	
N	40	
PMT	$ (325,000)	
FV	$ (10,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

EXERCISE 14-2 (Continued)

(4) Present value of $2,500,000 discounted at 12% for 10 periods
($2,500,000 X .32197) = $804,925

Using a financial calculator:

PV	$?	Yields $804,933
I	12%	
N	10	
PMT	0	
FV	$ (2,500,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

(5) Present value of an annuity of $1,500,000 discounted at 12% for 10 periods
($1,500,000 X 5.65022) = $8,475,330
Present value of $15,000,000 discounted at 12% for 10 years
($15,000,000 X .32197) 4,829,550
$13,304,880

Using a financial calculator:

PV	$?	Yields $13,304,933
I	12%	
N	10	
PMT	$ (1,500,000)	
FV	$ (15,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables.

EXERCISE 14-2 (Continued)

(g) Similarities and differences among the bond features and their impact on risk are as follows:

– bond maturity (duration) – The bonds all have the same maturity date (duration), thus this risk factor is equalized among the bonds.

– bond stated rate and effective interest rate – The bonds all have a different stated interest rate (ranging from a deep discount, zero coupon bond of 0% to 13%). A discount on bonds payable results when investors demand a rate of interest higher than the rate stated on the bonds. This occurs when the investors are not satisfied with the stated nominal interest rate because they can earn a greater rate on alternative investments of equal risk. They refuse to pay par for the bonds and cannot change the stated nominal rate. However, by lowering the amount paid for the bonds, investors can alter the effective rate of interest. A premium on bonds payable results from the opposite conditions. That is, when investors are satisfied with a rate of interest lower than the rate stated on the bonds, they are willing to pay more than the face value of the bonds in order to acquire them, thus reducing their effective rate of interest below the stated rate. In this case, all the bonds are set to yield an effective interest rate of 12%, which adjusts the pricing of each individual bond so that they are all equally attractive to investors (purely on interest rates).

– timing of cash flows – The bonds all have differing timing of cash flow to the investors. This can affect their risk, as cash flows further in the future have a higher risk factor than cash flows in the present.

– bond security – Bonds security affects the risk of the bond. In the event of default, a secured bond will rank higher than an unsecured bond. Thus unsecured bonds are generally more risky than secured bonds. Presumably the mortgage bonds have security.

EXERCISE 14-2 (Continued)

(g) (Continued)

All of the above factors have to be assessed together to determine the riskiness of each bond. The zero-coupon bonds have no cash flows over the entire 10-year term, making them riskier in that the company may not be able to pay back the $2.5 million at that time. On the other hand, the zero-coupon bonds may have more security underlying them than the 13% bonds which are listed as unsecured. The mortgage bonds are the least risky with the interest cash flows spread over the life of the bonds, and with physical property pledged as collateral in the case of inability of Anaconda to pay the principal or interest. Further information is required, however, about the fair value of the underlying collateral.

EXERCISE 14-3 (15-20 minutes)

1. Divac Limited:

(a)	1/1/14	Cash	300,000	
		Bonds Payable		300,000
(b)	7/1/14	Interest Expense.....	6,750	
		($300,000 X 9% X 3/12)		
		Cash		6,750
(c)	12/31/14	Interest Expense.....	6,750	
		Interest Payable.....		6,750

2. Verbitsky Inc.:

(a)	6/1/14	Cash	210,000	
		Bonds Payable		200,000
		Interest Expense		10,000
		($200,000 X 12% X 5/12)		
(b)	7/1/14	Interest Expense.....	12,000	
		Cash		12,000
		($200,000 X 12% X 6/12)		
(c)	12/31/14	Interest Expense.....	12,000	
		Interest Payable.....		12,000

Note to instructor: Some students may credit Interest Payable on 6/1/14. If they do so, the entry on 7/1/14 will have a debit to Interest Payable for $10,000 and a debit to Interest Expense for $2,000.

EXERCISE 14-4 (15-20 minutes)

(a)

1/1/14	Cash ($800,000 X 102%).....	816,000	
	Bonds Payable.....		816,000

(b)

7/1/14	Interest Expense.....	39,780	
	($816,000 X 9.75% X 1/2)		
	Bonds Payable.....	220	
	Cash.....		40,000
	($800,000 X 10% X 6/12)		

(c)

12/31/14	Interest Expense.....	39,769	
	($815,780* X 9.75% X 1/2)		
	Bonds Payable.....	231	
	Interest Payable.....		40,000

* Carrying amount of bonds at July 1, 2014:

Carrying amount of bonds at January 1, 2014	$816,000
Amortization of bond premium ($40,000 – $39,780)	(220)
Carrying amount of bonds at July 1, 2014	$815,780

EXERCISE 14-5 (15-20 minutes)

(a)

(1)	**1/1/14**	**Cash ($800,000 X 102%).....**	**816,000**	
		Bonds Payable		**816,000**
(2)	**7/1/14**	**Interest Expense.....**	**39,600**	
		Bonds Payable.....	**400**	
		($16,000 ÷ 40)		
		Cash		**40,000**
		($800,000 X 10% X 6/12)		
(3)	**12/31/14**	**Interest Expense.....**	**39,600**	
		Bonds Payable.....	**400**	
		Interest Payable		**40,000**

(b) Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

EXERCISE 14-6 (15-20 minutes)

(a)		January 1, 2014	
1.	Land	300,000.00	
	Notes Payable.....		300,000.00
	(The $300,000 capitalized land cost represents the present value of the note with maturity amount of $505,518 discounted for five years at 11%)		
2.	Equipment.....	204,242	
	Notes Payable.....		204,242

*Computation of the discount on notes payable:

Maturity value		$275,000.00
Present value of $275,000 due in 8 years at 11%—$275,000 X .43393	$119,330.75	
Present value of $16,500 ($275,000 X 6% X 12/12) payable annually for 8 years at 11% annually—$16,500 X 5.14612	84,910.98	
Present value of the note		(204,241.73)
Discount to be amortized		$ 70,758.27

EXERCISE 14-6 (Continued)

Using a financial calculator:

PV	$?	Yields $204,240.81
I	11%	
N	8	
PMT	$ (16,500)	
FV	$ (275,000)	
Type	0	

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables. This difference is in most cases immaterial.

(b)

1.	Interest Expense.....	33,000	
	Notes Payable.....		33,000
	($300,000 X .11)		
2.	Interest Expense.....	22,467	
	($204,242 X .11)		
	Notes Payable.....		5,967
	Cash ($275,000 X .06).....		16,500

EXERCISE 14-7 (15-20 minutes)

(a) The applicable Excel formula to determine the present value of the future cash flows of $427,068 is as follows:

Excel formula = PV(rate,nper,pmt,fv,type)

Using tables:

Face value of the non-interest-bearing note	$600,000
Discounting factor (12% for 3 periods)	X .71178
Amount to be recorded for the land at January 1, 2014	$427,068

Using a financial calculator:

PV	$?	Yields $427,068.15
I	12%	
N	3	
PMT	0	
FV	$ (600,000)	
Type	0	

Carrying amount of the note at January 1, 2014	$427,068
Applicable interest rate (12%)	X .12
Interest expense to be reported in 2014	$ 51,248

The assessed value for the land is not as clear a measure of the value of the land compared to the present value of the future cash flows on the note. The present value represents the agreed cash flows, discounted at the market rate of interest, whereas the assessed value has been computed (generally) only for the purpose of municipal taxation. It can be used as a reasonableness check on the amount arrived for the carrying amount of the non-interest-bearing note.

EXERCISE 14-7 (Continued)

(b) January 1, 2014

Cash	4,000,000	
Notes Payable.....		2,732,040
Unearned Revenue*		1,267,960

*$4,000,000 – ($4,000,000 X .68301) = $1,267,960

Excel formula = PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $2,732,054
I	10%	
N	4	
PMT	0	
FV	$ (4,000,000)	
Type	0	

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables. This difference is in most cases immaterial.

Carrying amount of the note at January 1, 2014	$2,732,040**
Applicable interest rate (10%)	X .10
Interest expense to be reported for 2014	$ 273,204

**$4,000,000 – $1,267,960 = $2,732,040

EXERCISE 14-8 (15-20 minutes)

(a) The purchase price of the land should be recorded at the present value of the future cash flows of the instalment note at the imputed interest rate of 9%. This is the fairest measure of the value of the asset obtained as it represents the present value of an agreed series of future cash flows. The listing price represents a tentative amount "asked" for the property and could be above or below the eventual agreed value.

(b) Land will be recorded at $110,000 based on the calculations below:

***PV of $43,456 ordinary annuity @ 9% for 3 years: ($43,456 X 2.53130) = $110,000**

Excel formula: =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	?	Yields $ 110,000
I	9%	
N	3	
PMT	$ (43,456)	
FV	$ 0	
Type	0	

(c)

Effective Interest Amortization Table
Effective Interest Method – 9%

Year	Note Payment	9% Interest	Reduction of Principal	Carrying Amount
1/1/14				$110,000
12/31/14	$43,456	$9,900	$ 33,556	76,444
12/31/15	43,456	6,880	36,576	39,868
12/31/16	43,456	3,588	39,868	0

EXERCISE 14-8 (Continued)

(d)	**Land**	**110,000**	
	Notes Payable		**110,000**
(e)	**Interest Expense**	**9,900**	
	Notes Payable	**33,556**	
	Cash		**43,456**

(f) From the perspective of Safayeni Ltd., an instalment note provides for a reduced risk of collection when compared to a regular interest-bearing note. In the case of the interest-bearing note, the principal amount is due at the maturity of the note. Further, the instalment note provides a regular reduction of the principal balance in every payment received annually and therefore reduces Safayeni's investment in the receivable, freeing up the cash for other purposes. This is demonstrated in the effective interest amortization table provided above for the instalment note.

EXERCISE 14-9 (15-20 minutes)

(a)	Equipment.....	576,765*	
	Notes Payable.....		576,765

*PV of $160,000 annuity @ 12% for 5 years: ($160,000 X 3.60478) = $576,765

Excel formula = PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $576,764
I	12%	
N	5	
PMT	$ (160,000)	
FV	$ 0	
Type	0	

(b)	Interest Expense.....	69,212*	
	Notes Payable.....	90,788	
	Cash		160,000

*(12% X $576,764)

Year	Note Payment	12% Interest	Reduction of Principal	Carrying Amount
1/2/14				$576,765
12/31/14	$160,000	$69,212	$ 90,788	485,977
12/31/15	160,000	58,317	101,683	384,294

(c)	Interest Expense.....	58,317	
	Notes Payable.....	101,683	
	Cash		160,000

EXERCISE 14-10 (15-20 minutes)

(a)	Equipment.....	86,349.00*	
	Cash		30,000.00
	Notes Payable.....		56,349.00
	*PV of $75,000 @ 10% for 3 years		
	($75,000 X 0.75132)		$56,349
	Down payment		30,000
	Capitalized value of equipment		$86,349

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $56,349
I	10%	
N	3	
PMT	$ 0	
FV	($ 75,000)	
Type	0	

(b)	December 31, 2015:		
	Interest Expense (see schedule)...	5,634.90	
	Notes Payable.....		5,634.90

Year	10% Interest	Balance
12/31/14		$56,349.00
12/31/15	$5,634.90	61,983.90
12/31/16	6,198.39	68,182.29
12/31/17	6,817.71*	75,000.00

* rounded by $0.52

EXERCISE 14-10 (Continued)

(b) (Continued)

December 31, 2016:		
Interest Expense	**6,198.39**	
Notes Payable		**6,198.39**
December 31, 2017:		
Interest Expense	**6,817.71**	
Notes Payable	**75,000.00**	
Notes Payable		**6,817.71**
Cash		**75,000.00**

(c) Accounting standards for private enterprises do not specify that the effective interest method must be used and therefore, the straight-line method is also an option. Collins may prefer to use the straight-line method due to its simplicity. However, the effective interest method is required under IFRS per IAS 39.47.

EXERCISE 14-11 (15-20 minutes)

(a)

	January 1, 2014		
Cash		860,651.79	
Bonds Payable			860,651.79

(b)

Schedule of Interest Expense and Bond Premium Amortization
Effective Interest Method
12% Bonds Sold to Yield 10%

Date	Credit Cash	Debit Interest Expense	Debit Bond Payable	Carrying Amount of Bonds
1/1/14	–	–	–	$860,651.79
1/1/15	$96,000.00	$86,065.18	$9,934.82	850,716.97
1/1/16	96,000.00	85,071.70	10,928.30	839,788.67
1/1/17	96,000.00	83,978.87	12,021.13	827,767.54

(c)

	December 31, 2014		
Interest Expense		86,065.18	
Bonds Payable		9,934.82	
Interest Payable			96,000.00

	January 1, 2015		
Interest Payable		96,000.00	
Cash			96,000.00

(d)

	December 31, 2016		
Interest Expense		83,978.87	
Bonds Payable		12,021.13	
Interest Payable			96,000.00

	January 1, 2017		
Interest Payable		96,000.00	
Cash			96,000.00

EXERCISE 14-11 (Continued)

(e) Accounting standards for private enterprises do not specify that the effective interest method must be used and therefore, the straight-line method is also an option. Osborn may prefer to use the straight-line method due to its simplicity. However, the effective interest method is required under IFRS per IAS 39.47.

EXERCISE 14-12 (15-20 minutes)

Schedule of Discount Amortization
Straight-Line Method

Year	Credit Interest Payable	Debit Interest Expense	Credit Bond Payable		Carrying Amount of Bonds
Jan. 1, 2014					$2,783,724.00
Dec. 31, 2014	$300,000	$343,255.20	$43,255.20	*	2,826,979.20
Dec. 31, 2015	300,000	343,255.20	43,255.20		2,870,234.40
Dec. 31, 2016	300,000	343,255.20	43,255.20		2,913,489.60
Dec. 31, 2017	300,000	343,255.20	43,255.20		2,956,744.80
Dec. 31, 2018	300,000	343,255.20	43,255.20		3,000,000.00

*$43,255.20 = ($3,000,000 – $2,783,724) ÷ 5.

EXERCISE 14-13 (15-20 minutes)

(a)
Using a financial calculator:

PV	$ 2,783,724
I	? %
N	5
PMT	$ (300,000)
FV	$ (3,000,000)
Type	0

Excel formula: = RATE(nper,pmt,pv,fv,type)
The effective interest or yield rate is 12%

Schedule of Discount Amortization
Effective Interest Method (12%)

Year	Credit Interest Payable	Debit Interest Expense		Credit Bond Payable	Carrying Amount of Bonds
(1)	(2)	(3)		(4)	
Jan. 1, 2014					$2,783,724.00
Dec. 31, 2014	$300,000	$334,046.88	*	$34,046.88	2,817,770.88
Dec. 31, 2015	300,000	338,132.51		38,132.51	2,855,903.39
Dec. 31, 2016	300,000	342,708.41		42,708.41	2,898,611.80
Dec. 31, 2017	300,000	347,833.42		47,833.42	2,946,445.22
Dec. 31, 2018	300,000	353,554.78	**	53,554.78	3,000,000.00

*$334,046.88 = $2,783,724 X .12.
**Rounded.

EXERCISE 14-13 (Continued)

(b) The straight-line method results in higher interest expense for the year ended December 31, 2014, and the effective interest method results in higher interest expense for the year ended December 31, 2018. Under the straight-line method, the amount that is amortized each year is constant. Under the effective interest method, the amount amortized each year is based on a constant percentage of the bonds' increasing carrying amount. A user who would like the company's income statement to reflect the most faithfully representative measure of net income would prefer that the company use the effective interest method, under which interest expense correlates more closely with the actual carrying amount of the bond.

EXERCISE 14-14 (15-20 minutes)

1.

Printing and engraving costs of bonds	$25,000
Legal fees	69,000
Commissions paid to underwriter	70,000
Amount to be reported	$164,000

When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. The costs would affect the amount of bond premium or discount amortization recorded and effectively increase the interest expense over the term of the bond. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value option or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

2.

Interest paid for each period, from January 1 to June 30, 2014 and July 1 to Dec. 31, 2014 $3,000,000 X 10% X 6/12	$150,000
Less: Premium amortization for each period from January 1 to June 30, and July 1 to Dec. 31, [($3,000,000 X 1.04) – $3,000,000] ÷ 10 X 6/12	6,000
Interest expense to be recorded on each of July 1 and December 31, 2014	$ 144,000

3.

Carrying amount of bonds on June 30, 2014	$562,500
Effective interest rate for the period from June 30 to October 31, 2014 (.10 X 4/12)	X .033333
Interest expense to be recorded on October 31, 2014	$ 18,750

EXERCISE 14-14 (Continued)

4.

Carrying amount of bonds on Dec. 31, 2014	**$850,716.97**
Less: fair value of bonds on Dec. 31, 2014	**838,000.00**
Gain on bonds due to change in credit risk	**$12,716.97**

Under IAS 39, where the fair value option is selected, credit risk is incorporated into the measurement and resulting gains/losses are booked through net income. However, under IFRS 9 (which is not mandatorily adoptable until 2015), gains/losses related to changes in credit risk are booked through Other Comprehensive Income.

(Note that under ASPE, where the fair value option is used, credit risk is incorporated into the measurement and resulting gains/losses are booked through net income.)

EXERCISE 14-15 (15-20 minutes)

(a) **By granting the loan for the burner, the Province of Ontario is conferring additional benefit to Russell Forest Products Limited beyond providing financing. They are forgiving the interest that Russell would normally be charged, in this case at the rate of 7%, had they borrowed the funds to finance the construction. Russell Forest Products Limited is getting a double benefit. First it is getting the loan and second the company does not have to incur interest payments on the note. The benefit has to be accounted for as a government grant. The measurement of the interest at 7% is the fair rate of interest to impute on this loan.**

(b)

Using a financial calculator:

PV	$?	Yields $232,804
I	7%	
N	8	
PMT	$ 0	
FV	$ (400,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit Notes Payable	Carrying Amount of Note
12/31/14		$ 232,803.64
12/31/15	$16,296.25	249,099.90
12/31/16	17,436.99	266,536.89
12/31/17	18,657.58	285,194.47

EXERCISE 14-15 (Continued)

(c)

Cash	400,000	
Notes Payable		232,804
Equipment		167,196

($400,000 – $232,804 = $167,196)

(d)

	December 31, 2015	
Interest Expense	16,296	
Notes Payable		16,296

EXERCISE 14-16 (20-30 minutes)

(a)

1. **June 30, 2014**

Cash	4,300,920	
Bonds Payable		4,300,920

2. **December 31, 2014**

Interest Expense..... ($4,300,920 X 12% X 6/12)	258,055	
Bonds Payable	1,945	
Cash ..... ($4,000,000 X 13% X 6/12)		260,000

3. **June 30, 2015**

Interest Expense..... [($4,300,920 – $1,945) X 12% X 6/12]	257,939	
Bonds Payable.....	2,061	
Cash		260,000

4. **December 31, 2015**

Interest Expense..... [($4,300,920 – $1,945 – $2,061) X 12% X 6/12]	257,815	
Bonds Payable.....	2,185	
Cash		260,000

(b) Long-term Liabilities:

Bonds payable, 13% (due on June 30, 2034) $4,298,975

($4,300,920 – $1,945) = $4,298,975

EXERCISE 14-16 (Continued)

(c)

1. **Interest expense for the period from July 1 to December 31, 2014 from (a) 2. $258,055**
Amount of bond interest expense reported for 2014 $258,055

2. **The amount of bond interest expense reported in 2014 will be greater than the amount that would be reported if the straight-line method of amortization were used. Under the straight-line method, the amortization of bond premium is $7,523 ($300,920/20 X 6/12). Bond interest expense for 2014 would be the difference between the actual interest paid, $260,000 ($4,000,000 X 13% X 6/12) and the amortized premium, $7,523. Thus, the amount of bond interest expense would be $252,477, which is smaller than the bond interest expense under the effective interest method.**

Note: Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

3.

Total interest to be paid for the bond ($4,000,000 X 13% X 20)	$10,400,000
Principal due in 2034	4,000,000
Total cash outlays for the bond	14,400,000
Cash received at issuance of the bond	(4,300,920)
Total cost of borrowing over the life of the bond	$10,099,080

4. **They will be the same, although the pattern of recognition will be different.**

EXERCISE 14-17 (10-15 minutes)

Reacquisition price ($500,000 X 104%)		**$520,000**
Less: Net carrying amount of bonds redeemed:		
Face value.....	**$500,000**	
Unamortized discount	**(10,000)**	**490,000**
Loss on redemption		**$ 30,000**

Bonds Payable.....	**490,000**	
Loss on Redemption of Bonds	**30,000**	
Cash		**520,000**
(To record redemption of bonds payable)		

Cash	**512,000**	
.....		
.....		
Bonds Payable ($500,000 + $15,000 – $3,000).....		**512,000**
(To record issuance of new bonds)		

Note: When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. These costs would affect the amount of bond premium or discount amortization recorded and effectively increase the interest expense over the term of the bond through the allocation of the issuance cost to periods. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value option or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

EXERCISE 14-18 (15-20 minutes)

(a)

	June 30, 2014	
Bonds Payable	789,600	
Loss on Redemption of Bonds	42,400	
Cash		832,000
Reacquisition price ($800,000 X 104%)		$832,000
Carrying amount of bonds redeemed:		
Par value	$800,000	
Unamortized discount (.02 X $800,000 X 13/20)	(10,400)	(789,600)
Loss on redemption		$ 42,400
Cash ($1,000,000 X 102%)	1,020,000	
Bonds Payable		1,020,000

(b)

	December 31, 2014	
Interest Expense	49,500	
Bonds Payable	500*	
Cash		50,000**

*(1/40 X $20,000 = $500)

**(.05 X $1,000,000 = $50,000)

EXERCISE 14-19 (30-35 minutes)

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:
Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 784,000	
I	? %	Yields 6.135%
N	40	
PMT	$ (48,000)	
FV	$ (800,000)	
Type	0	

Schedule of Bond Discount Amortization
Effective Interest Method
12% Semi-annual Bonds Sold to Yield 12.27%

Date		6.0% Cash Paid	6.135% Interest Expense	Discount Amortized	Carrying Amount
June 30	2007				$784,000.00
Dec. 31	2007	$48,000.00	$48,098.44	$98.40	784,098.40
June 30	2008	48,000.00	48,104.44	104.44	784,202.84
Dec. 31	2008	48,000.00	48,110.84	110.84	784,313.68
June 30	2009	48,000.00	48,117.64	117.64	784,431.33
Dec. 31	2009	48,000.00	48,124.86	124.86	784,556.19
June 30	2010	48,000.00	48,132.52	132.52	784,688.71
Dec. 31	2010	48,000.00	48,140.65	140.65	784,829.36
June 30	2011	48,000.00	48,149.28	149.28	784,978.64
Dec. 31	2011	48,000.00	48,158.44	158.44	785,137.08
June 30	2012	48,000.00	48,168.16	168.16	785,305.24
Dec. 31	2012	48,000.00	48,178.48	178.48	785,483.72
June 30	2013	48,000.00	48,189.43	189.43	785,673.15
Dec. 31	2013	48,000.00	48,201.05	201.05	785,874.19
June 30	2014	48,000.00	48,213.38	213.38	786,087.57
				$2,087.57	

EXERCISE 14-19 (Continued)

Although not required, the entry at the issuance of the bonds:

6/30/07	Cash ($800,000 X 98%).....	784,000	
	Bonds Payable		784,000

(a)
At June 30, 2014 the carrying amount of the bonds is as indicated in the effective interest table: $786,087.57

	June 30, 2014	
Bonds Payable.....	786,087.57	
Loss on Redemption of Bonds	45,912.43	
Cash		832,000.00

Reacquisition price ($800,000 X 104%) .	$832,000.00
Net carrying amount of bonds redeemed:	786,087.57
Loss on redemption	$45,912.43

Cash ($1,000,000 X 102%).....	1,020,000	
Bonds Payable		1,020,000

EXERCISE 14-19 (Continued)

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:
Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 1,020,000	
I	? %	Yields 4.885 %
N	40	
PMT	$ (50,000)	
FV	$ (1,000,000)	
Type	0	

(b)

	December 31, 2014		
Interest Expense.....	49,827.00		
Bonds Payable.....	173.00		
Cash			50,000.00

($1,020,000 X 4.885% = $49,827.00)

EXERCISE 14-20 (15-20 minutes)

(a)

Reacquisition price ($850,000 X 102%)	$867,000
Less: Net carrying amount of bonds redeemed:	
Par value	850,000
Unamortized discount	(43,917)
	806,083
Loss on redemption	$ 60,917

Calculation of unamortized discount—	
Original amount of discount:	
$850,000 X 3% = $25,500	$25,500
Bond issuance costs ($110,000 X	
$850,000/$1,500,000 =	62,333
Amount to be amortized over 10 years	$87,833

Amount of discount unamortized:
($87,833 X 5) ÷ 10 = $43,917

	January 2, 2014	
Bonds Payable.....	806,083	
Loss on Redemption of Bonds	60,917	
Cash		867,000

EXERCISE 14-20 (Continued)

(b) Had the costs of issuing the bond of $110,000 been expensed on the date of issue (which is the required accounting treatment for transactions costs when the debt is subsequently measured at fair value rather than amortized cost), the issue costs would have been charged to expense in 2009.

Reacquisition price ($850,000 X 102%)	$867,000
Less: Carrying amount of bonds on the reacquisition date = fair value at that date (see assumption)	867,000
Gain/Loss on redemption	$ -0-

Note to instructor: Since the bonds are carried at fair value, there would be no separate gain or loss on retirement. All changes in the fair value of the bonds would have already been recognized in net income in prior years. If the company had adopted IFRS 9 early in prior years, all changes in the fair value of the bonds (which relate to changes in credit risk) would have already been recognized in Other Comprehensive Income.

January 2, 2014		
Bonds Payable.....	867,000	
Cash		867,000

EXERCISE 14-20 (Continued)

(c)

If Kowalchuk were to follow IFRS, then the effective interest method must be used to amortize any discounts or premiums. Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

Under IAS 39, where the fair value option is selected, credit risk is incorporated into the measurement and resulting gains/losses are booked through net income. However, under IFRS 9 (which is not mandatorily adoptable until 2015), gains/losses related to changes in credit risk are booked through Other Comprehensive Income.

(Note that under ASPE, where the fair value option is used, credit risk is incorporated into the measurement and resulting gains/losses are booked through net income.)

EXERCISE 14-21 (15-20 minutes)

Cash ($7,000,000 X .98)	6,860,000	
Bonds Payable		6,860,000
(To record issuance of 10% bonds)		
Bonds Payable	4,880,000	
Loss on Redemption of Bonds	220,000	
Cash ($5,000,000 X 1.02)		5,100,000
(To record retirement of 11% bonds)		
Reacquisition price		$5,100,000
Less: Net carrying amount of bonds redeemed:		
Par value	$5,000,000	
Unamortized bond discount	(120,000)	4,880,000
Loss on redemption		$ 220,000

EXERCISE 14-22 (15-25 minutes)

(a) Journal entry to record issuance of loan by Par Bank:

December 31, 2013		
Notes Receivable	**81,241**	
Cash		**81,241**

(b)

Note Amortization Schedule
(Before Impairment)

Date	Cash Received (0%)	Interest Income (9%)	Discount Amortized	Carrying Amount of Note
12/31/13				$81,241
12/31/14	$0	$7,312	$7,312	88,553

Computation of the impairment loss:

Carrying amount of investment (12/31/14)	$88,553
Less: Present value of $93,750 due in 4 years at 9% ($93,750 X .70843)	66,415
Loss due to impairment	$22,138

Using a financial calculator:

PV	$?	Yields $66,415
I	9%	
N	4	
PMT	0	
FV	$ (93,750)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

EXERCISE 14-22 (Continued)

The entry to record the loss by Par Bank is as follows:

Bad Debt Expense	**22,138**	
Allowance for Doubtful Accounts		**22,138**

(c) Mohr Inc., the debtor, makes no entry because it still legally owes $125,000.

EXERCISE 14-23 (15-20 minutes)

(a) Transfer of property on December 31, 2014:

Strickland Inc. (Debtor):

Notes Payable	200,000	
Interest Payable	18,000	
Accumulated Depreciation—Machine	221,000	
Machinery		390,000
Gain on Sale of Machinery		11,000[a]
Gain on Restructuring of Debt ..... of		38,000[b]

[a]$180,000 – ($390,000 – $221,000) = $11,000.
[b]($200,000 + $18,000) – $180,000 = $38,000.

Heartland Bank (Creditor):

Machinery	180,000	
Allowance for Doubtful Accounts*	38,000	
Notes Receivable		200,000
Interest Receivable		18,000

*** Assumes Heartland had previously recognized a loss when they determined the loan was impaired, and set up an allowance for doubtful accounts or had otherwise included this category of notes in allowance calculations.**

(b) If "Gain on Sale of Machinery" and "Gain on Restructuring of Debt" do not occur frequently, they are still presented as part of income from continuing operations. If they are not material in amount, they are combined with the other items in the income statement. If they are material, they are disclosed separately. However, if the same types of gains/losses recur each year, then they are not really unusual and care must be taken to classify them with other gains and losses as normal transactions.

EXERCISE 14-23 (Continued)

(c) Granting of equity interest on December 31, 2014:

Strickland Inc. (Debtor):

Notes Payable	200,000	
Interest Payable	18,000	
Common Shares		190,000
Gain on Restructuring of Debt		28,000

Heartland Bank (Creditor):

FV-NI Investments	190,000	
Allowance for Doubtful Accounts*	28,000	
Notes Receivable		200,000
Interest Receivable		18,000

*** Assumes Heartland had previously recognized a loss when they determined the loan was impaired, and set up an allowance for doubtful accounts or had otherwise included this category of notes in allowance calculations.**

EXERCISE 14-24 (20-30 minutes)

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $2,000,000.
Present value of new debt is calculated as follows:
Using tables:

		12% Factor	Present Value
Single amount	$ 1,900,000	0.71178	$ 1,352,382
Interest annuity	190,000	2.40183	456,348
			$ 1,808,730

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,808,730
I	12%	
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

EXERCISE 14-24 (Continued)

Since the present value of the future cash flows of the new debt does not differ by an amount greater than 10% of the present value of the old debt, the renegotiated debt is not considered a settlement. No gain is recorded by Troubled. This is considered a modification of terms. The old debt remains on the books of Troubled at $2,000,000 and no gain or loss is recognized. Note disclosure is required.

(b)
The new effective rate of 7.9592% was computed by Troubled in order to record the interest expense based on the future cash flows specified by the new terms with the pre-restructuring carrying amount of the debt of $2,000,000. The rate would have been calculated as follows:

Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 2,000,000	
I	? %	Yields 7.9592 %
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

EXERCISE 14-24 (Continued)

The interest payment schedule is prepared as follows:

TROUBLED INC.
INTEREST PAYMENT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 7.9592%

Date	Cash Interest (10%)	Effective Interest (7.9592%)	Reduction of Carrying Amount	Carrying Amount of Note
12/31/14				$2,000,000
12/31/15	$190,000[a]	$159,184[b]	$30,816[c]	1,969,184
12/31/16	190,000	156,731	33,269	1,935,915
12/31/17	190,000	154,085[d]	35,915	1,900,000
Total	$570,000	$470,000	$100,000	

[a]$1,900,000 X 10% = $190,000.
[b]$2,000,000 X 7.9592% = $159,184.
[c]$190,000 – $159,184 = $30,816.
[d]Adjusted for rounding.

(c) Interest payment entry for Troubled Inc. is:

	December 31, 2016	
Notes Payable	33,269	
Interest Expense	156,731	
Cash		190,000

(d) The payment entry at maturity is:

	January 1, 2018	
Notes Payable	1,900,000	
Cash		1,900,000

EXERCISE 14-25 (25-30 minutes)

(a) The Green Bank should use the historical interest rate of 12% to calculate the loss.

(b)

Pre-restructuring carrying amount of note	$2,000,000
Present value of restructured cash flows (below)	1,808,730
Loss on restructuring of debt	$ 191,270

Using tables:

		12% Factor	Present Value
Single amount	$ 1,900,000	0.71178	$ 1,352,382
Interest annuity	190,000	2.40183	456,348
			$ 1,808,730

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,808,730
I	12%	
N	3	
PMT	$ (190,000)	
FV	$ (1,900,000)	
Type	0	

December 31, 2014		
Bad Debt Expense	191,270	
Notes Receivable		191,270

Note: if Green Bank had previously recognized an Allowance for Doubtful Accounts related to this account, the debit account would have been the Allowance account instead of the expense account.

EXERCISE 14-25 (Continued)

(c) The interest receipt schedule is prepared as follows:

GREEN BANK
INTEREST RECEIPT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 12%

Date	Cash Interest (10%)	Effective Interest (12%)	Increase in Carrying Amount	Carrying Amount of Note
12/31/14				$1,808,730
12/31/15	$190,000[a]	$217,047[b]	$27,047[c]	1,835,777
12/31/16	190,000	220,293	30,293	1,866,070
12/31/17	190,000	223,930	33,930	1,900,000
Total	$570,000	$661,270	$91,270	

[a]$1,900,000 X 10% = $190,000.
[b]$1,808,730 X 12% = $217,047.
[c]$217,047 – $190,000 = $27,047.

(d) Interest receipt entry for Green Bank is:

December 31, 2016

Cash	190,000	
Notes Receivable.....	30,293	
Interest Income.....		220,293

(e) The receipt entry at maturity is:

January 1, 2018

Cash	1,900,000	
Notes Receivable		1,900,000

EXERCISE 14-26 (25-30 minutes)

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $2,000,000.
Present value of new debt is calculated as follows:

Using tables:		12% Factor	Present Value
Single amount	$ 1,600,000	0.71178	$ 1,138,848
Interest annuity	160,000	2.40183	384,293
			$ 1,523,141

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,523,141
I	12%	
N	3	
PMT	$ (160,000)	
FV	$ (1,600,000)	
Type	0	

Since the present value of the future cash flows of the new debt of $1,523,141 differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $2,000,000, the renegotiated debt is considered a settlement and Troubled records a gain.

EXERCISE 14-26 (Continued)

(b)

Notes Payable	2,000,000	
.....		
Gain on Restructuring of Debt		400,000
Notes Payable.....		1,600,000

(c)

The new debt would be recorded at the present value of the new cash flows at the current market rate of 10%. Therefore Troubled should use the current market rate of 10% to calculate its interest expense in future periods. In E14-24, the renegotiated debt was not considered a settlement, and a new effective interest rate was imputed by equating the carrying amount of the original debt with the present value of the revised cash flows.

(d) The interest payment schedule is prepared as follows:

TROUBLED INC.
INTEREST PAYMENT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 10%

Date	Cash Interest (10%)	Effective Interest (10%)	Reduction of Carrying Amount	Carrying Amount of Note
12/31/14				$1,600,000
12/31/15	$160,000[a]	$160,000	-	1,600,000
12/31/16	160,000	160,000	-	1,600,000
12/31/17	160,000	160,000	-	1,600,000
Total	$480,000	$480,000		

[a] $1,600,000 X 10% = $160,000.

EXERCISE 14-26 (Continued)

(e) Interest payment entries for Troubled Inc. are:

	December 31, 2015 through 2017	
Interest Expense	160,000	
Cash		160,000

(f) The payment entry at maturity is:

	January 1, 2018	
Notes Payable	1,600,000	
Cash		1,600,000

EXERCISE 14-27 (20-30 minutes)

(a)

Pre-restructuring carrying amount of note	$2,000,000
Present value of restructured cash flows (below)	1,523,141
Loss on debt restructuring	$ 476,859

Using present value tables:

		12% Factor	Present Value
Single amount	$ 1,600,000	0.71178	$ 1,138,848
Interest annuity	160,000	2.40183	384,293
			$ 1,523,141

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $1,523,141
I	12%	
N	3	
PMT	$ (160,000)	
FV	$ (1,600,000)	
Type	0	

Green Bank needs to calculate the present value of the expected cash flows discounted at the historical effective interest rate, which in this case is 12%.

(b)

	December 31, 2014	
Bad Debt Expense	476,859	
Notes Receivable		476,859

EXERCISE 14-27 (Continued)

(c) The interest receipt schedule is prepared as follows:

GREEN BANK
INTEREST RECEIPT SCHEDULE AFTER DEBT RESTRUCTURING
EFFECTIVE INTEREST RATE 12%

Date	Cash Interest (10%)	Effective Interest (12%)	Increase in Carrying Amount	Carrying Amount of Note
12/31/14				$1,523,141
12/31/15	$160,000[a]	$182,777[b]	$22,777[c]	1,545,918
12/31/16	160,000	185,510	25,510	1,571,428
12/31/17	160,000	188,572	28,572	1,600,000
Total	$480,000	$556,859	$76,859	

[a]$1,600,000 X 10% = $160,000.
[b]$1,523,141 X 12% = $182,777.
[c]$182,777 – $160,000 = $22,777.

(d) Interest receipt entry for Green Bank is:

December 31, 2015		
Cash	160,000	
Notes Receivable	22,777	
Interest Income		182,777
December 31, 2016		
Cash	160,000	
Notes Receivable	25,510	
Interest Income		185,510
December 31, 2017		
Cash	160,000	
Notes Receivable	28,572	
Interest Income		188,572

EXERCISE 14-27 (Continued)

(e) The receipt entry at maturity is:

	January 1, 2018	
Cash	**1,600,000**	
Notes Receivable		**1,600,000**

EXERCISE 14-28 (20–25 minutes)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Present value of old debt is $270,000.
Present value of new debt is calculated as follows:

Using tables:		12% Factor	Present Value
Single amount	$ 220,000	0.79719	$ 175,382
Interest annuity	11,000	1.69005	18,591
			$ 193,973

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $193,973
I	12%	
N	2	
PMT	$ (11,000)	
FV	$ (220,000)	
Type	0	

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the old debt, the renegotiated debt is considered a settlement. A gain/loss is recorded by Vargo (debtor) and no interest is recorded by the debtor. This is not considered a modification of terms. The old debt is removed from the books of Vargo with a gain/loss being recognized, and the new debt is recorded.

EXERCISE 14-28 (Continued)

(a)

Vargo Corp.'s entries:

2014	Notes Payable	270,000	
	Gain on Restructuring of Debt		50,000
	Notes Payable		220,000
2015	Interest Expense	11,000	
	Cash (5% X $220,000)		11,000
2016	Interest Expense	11,000	
	Cash		11,000
2016	Notes Payable	220,000	
	Cash		220,000

(b)

First Trust's entry on December 31, 2014:

Bad Debt Expense	76,027	
Notes Receivable		76,027

Pre-restructure carrying amount		$270,000
Present value of restructured cash flows:		
Present value of $220,000 due in 2 years at 12%, interest payable annually ($220,000 X .79719)	$175,382	
Present value of $11,000 interest payable annually for 2 years at 12%; ($11,000 X 1.69005)	18,591	193,973
Creditor's loss on restructure		$ (76,027)

EXERCISE 14-28 (Continued)

Date	Cash Interest	Effective-Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/14				$193,973
12/31/15	$11,000[a]	$23,277[b]	$12,277[c]	206,250
12/31/16	11,000	24,750	13,750	220,000

[a]$11,000 = $220,000 X .05
[b]$23,277 = $193,973 X 12%
[c]$12,277 = $23,277 – $11,000

December 31, 2015

Cash	11,000	
.....		
.....		
Notes Receivable.....	12,277	
Interest Income.....		23,277

December 31, 2016

Cash	11,000	
.....		
.....		
Notes Receivable.....	13,750	
Interest Income.....		24,750
Cash	220,000	
.....		
.....		
Notes Receivable		220,000

EXERCISE 14-29 (15-20 minutes)

(a) Grumpy Limited's entry:

Notes Payable	137,300	
Accumulated Depreciation - Equipment	45,000	
Equipment		100,000
Gain on Disposal of Equipment ($82,500 – $55,000)		27,500
Gain on Restructuring of Debt		54,800*

*$137,300 – $82,500

(b) Bank One Inc.'s entry:

Equipment	82,500	
Allowance for Doubtful Accounts	54,800	
Notes Receivable		137,300

EXERCISE 14-30 (15-20 minutes)

(a) IFRS

1. Current liability since the operating cycle of the winery is 5 years.
2. Current liability, $2,000,000; long-term liability, $8,000,000.
3. Current liability (amount actually held in trust).
4. Probably noncurrent, although if operating cycle is greater than one year and current assets are reported based on this longer period, this item would be classified as current.
5. Interest payable is a current liability and the note payable is noncurrent liability.
6. Current liability.
7. Noncurrent liability.
8. Current liability.
9. Current asset – netted against other cash balances.
10. Current liability.

(b) ASPE

No differences. All of the above IFRS classifications would be the same under ASPE.

EXERCISE 14-31 (15-20 minutes)

(a) IFRS

1. Interest expense (credit balance)—"Other revenues and gains" on the income statement.
2. Gain on restructuring of debt— If "Gain on restructuring of debt" does not occur frequently, it is still presented as part of "Income from continuing operations". If it is not material in amount, it is combined with the other items in the income statement. If it is material, it is disclosed separately.
3. Mortgage payable—Classify one-third as current liability and the remainder as long-term liability on the statement of financial position.
4. Debenture bonds—Classify as long-term liability on balance sheet.
5. Notes payable—Classify as long-term liability on balance sheet.
6. Income bonds payable—Classify as long-term liability on the statement of financial position.

(b) ASPE

No differences. All of the above IFRS classifications would be the same under ASPE.

EXERCISE 14-32 (10-15 minutes)

At December 31, 2014, disclosures would be as follows:

Long-term debt consists of the following:

Notes payable, due June 30, 2017	**$2,200,000**
Bond, due September 30, 2018	**4,000,000**
Debenture	**17,500,000**
	$23,700,000

The debenture has annual sinking fund payments of $3,500,000 in each of the years 2016 to 2020.

Maturities and sinking fund requirements on long-term debt are as follows:

2015	**$ 0**	
2016	**3,500,000**	
2017	**5,700,000**	**($2,200,000 + $3,500,000)**
2018	**7,500,000**	**($4,000,000 + $3,500,000)**
2019	**3,500,000**	
Thereafter	**3,500,000**	

Note: The company would also need to disclose interest rates for each liability, collateral if any, covenants and any other significant details in the debt agreements.

TIME AND PURPOSE OF PROBLEMS

Problem 14-1 (Time 20-25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the exchange of a note, which is payable in equal instalments, for machinery. This problem requires the preparation of the necessary journal entries concerning the exchange and the annual payments and interest. A schedule of note discount amortization should be constructed to support the respective entries.

Problem 14-2 (Time 40-50 minutes)

Purpose—to provide the student with the opportunity to contrast the terms of a long-term note given in exchange for the purchase of land. The discussion of risk and financial statement disclosure is included as part of the required for this question. The preparation of effective interest tables for both alternatives is intended to draw the student's attention to the differences in the treatment of principal and interest between a regular note and an instalment note payable. Journal entries and adjusting journal entries and the statement of financial position disclosure must also be prepared under both alternatives. This is a comprehensive question.

Problem 14-3 (Time 15-20 minutes)

Purpose—to provide the student with the opportunity to interpret a bond amortization schedule. This problem requires both an understanding of the function of such a schedule and the relevance of each of the individual numbers. The student is to prepare journal entries to reflect the information given in the bond amortization schedule.

Problem 14-4 (Time 25-30 minutes)

Purpose—to provide the student with an understanding of how to make the journal entry to record the issuance of bonds. In addition, a portion of the bonds are retired and therefore a bond amortization schedule has to be prepared. Student must also deal with accounting for the costs of issuing a bond.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-5 (Time 50-65 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated for a bond issuance. This problem involves two independent bond issuances with the assumption that one is sold at a discount and the other at a premium, both utilizing the effective interest method. This comprehensive problem requires preparing journal entries for the issuance of bonds, related interest payments and amortization (with the construction of amortization tables where applicable), and the retirement of part of the bonds.

Problem 14-6 (Time 30-35 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries, for a bond issuance and bond retirement. This problem requires preparing journal entries, assuming the straight-line method, for the issuance of bonds, related interest payments and amortization, and the retirement of part of the bonds.

Problem 14-7 (Time 15-25 minutes)

Purpose—to provide the student with an opportunity to become familiar with the exchange of notes for cash or property, goods, or services. This problem requires the preparation of the necessary journal entries concerning the exchange of a non-interest-bearing long-term note for a computer software system, and the necessary adjusting entries relative to amortization. The student should construct the relevant schedule of note discount amortization to support the respective entries.

Problem 14-8 (Time 15-20 minutes)

Purpose—to provide the student with an understanding of the relevant journal entries which are necessitated when there is a bond issuance and bond retirement. This problem also provides an opportunity for the student to learn the income statement treatment of the loss from retirement and the footnote disclosure required.

Problem 14-9 (Time 20-25 minutes)

Purpose—to provide the student with an understanding of a number of areas related to bonds. Specifically, the classification of bonds, determination of cash received with bond issue costs and accrued interest, and disclosure requirements.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-10 (Time 20-25 minutes)

Purpose—to provide the student with a series of transactions from bond issuance, payment of bond interest, accrual of bond interest, amortization of bond discount, and bond retirement. Journal entries are required for each of these transactions.

Problem 14-11 (Time 20-25 minutes)

Purpose—to provide the student the same opportunity as those given in Problem 14-6 except that the effective interest method will be used. The student will be required to calculate the effective interest rate on the bond using either a financial calculator or Excel function. The preparation of a partial effective interest table is also required.

Problem 14-12 (Time 30-40 minutes)

Purpose—to provide the student with a loan impairment situation that requires entries by both the debtor and the creditor and an analysis of the loss on impairment.

Problem 14-13 (Time 15-25 minutes)

Purpose—to provide the student with a troubled debt situation that requires calculation of the creditor's loss on restructure, entries to recognize the loss, and discussion of GAAP relating to this situation.

Problem 14-14 (Time 40-50 minutes)

Purpose—to provide the student with four independent and different restructured debt situations where losses or gains must be computed and journal entries recorded on the books of the creditor and the debtor.

Problem 14-15 (Time 40-50 minutes)

Purpose—to provide the student with a restructuring of a troubled debt situation requiring computation of the creditor's loss and entries by both the debtor and creditor before and after restructuring along with an amortization schedule.

TIME AND PURPOSE OF PROBLEMS (CONTINUED)

Problem 14-16 (Time 30-35 minutes)

Purpose—to provide the student with a situation where troubled debt is sold to another creditor. The student must prepare entries on the books of both creditors and debtors after computing any gains or losses.

Problem 14-17 (Time 40-50 minutes)

Purpose—to provide the student with a complex troubled debt situation that requires two amortization schedules, computation of loss on restructure, and entries at different times on both the creditor's and debtor's books.

SOLUTIONS TO PROBLEMS

PROBLEM 14-1

(a)
(1)

12/31/14	Machinery.....	182,485	
	Cash		50,000
	Notes Payable.....		132,485
	[To record machinery at the present value of the note plus the immediate cash payment:		
	PV of $40,000 annuity @ 8% for 4 years ($40,000 X 3.31213)		$132,485
	Down payment		50,000
	Capitalized value of machinery		$182,485

Using a financial calculator:

PV	$?	Yields $132,485
I	8%	
N	4	
PMT	$ (40,000)	
FV	$ 0	
Type	0	

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit, Notes Payable	Credit Cash	Carrying Amount of Note
12/31/14			$132,485
12/31/15	$10,599	$40,000	103,084*
12/31/16	8,247	40,000	71,331
12/31/17	5,706	40,000	37,037
12/31/18	2,963	40,000	—

*$103,084 = $132,485 + $10,599 – $40,000.

PROBLEM 14-1 (Continued)

(2)

12/31/15	Notes Payable	40,000	
	Cash		40,000
	Interest Expense	10,599	
	Notes Payable		10,599

(3)

12/31/16	Notes Payable	40,000	
	Cash		40,000
	Interest Expense	8,247	
	Notes Payable		8,247

(4)

12/31/17	Notes Payable	40,000	
	Cash		40,000
	Interest Expense	5,706	
	Notes Payable		5,706

(5)

12/31/18	Notes Payable	40,000	
	Cash		40,000
	Interest Expense	2,963	
	Notes Payable		2,963

(b) From the perspective of the lender, an instalment note provides for a reduced risk of collection when compared to an interest-bearing note. In the case of the interest-bearing note, the principal amount is due at the maturity of the note. Further, the instalment note provides a regular reduction of the principal balance in every payment received annually and therefore reduces the lender's investment in the receivable, freeing up the cash for other purposes. This is demonstrated in the schedule of discount amortization provided above for the instalment note.

PROBLEM 14-2

(a) The value of the land should be recorded at the present value of the future cash flows of the note given in exchange for the land. The asking price for the land is higher than the real purchase price. There is some flexibility to negotiate a reduction in the asking price for the land for sale by Silverman Corporation. The relevant interest rate to impute on the note is the interest rate to MacDougall who is the borrower in this case. The relevant interest rate is therefore 10%. The interest rate called for in the note of 4% is very low in relation to a fair market rate of interest.

(b) A mortgage note involves the registering of a charge against the property, in this case land, whereas a promissory note alone offers no reduction of risk to Silverman Corporation. Should MacDougall fail to pay the note within the terms, Silverman Corporation can obtain recourse through the court and obtain the asset, or the proceeds from the resale of the asset, as satisfaction for the outstanding principal and interest owing on the mortgage note. A promissory note alone does not offer this potential relief to the creditor and is therefore a higher credit risk to Silverman Corporation.

(c) The land is capitalized at the present value of a single payment at the end of five years of $300,000 plus the annuity interest payments of $12,000 per year for 5 years, imputed at 10% interest. Using present value tables:

$300,000 X .62092 =	**$186,276**
$12,000 X 3.79079 =	**45,490**
Present value	**$231,766**

PROBLEM 14-2 (Continued)

Using a financial calculator:

PV	$?	Yields $231,766
I	10%	
N	5	
PMT	$ (12,000)	
FV	$ (300,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Mortgage Note Payable – interest paid at 4%

Date	4% Cash Paid	10% Interest Expense	Discount Amortized	Note Carrying Amount
June 1 2014				$231,765.84
June 1 2015	$12,000.00	$23,176.58	$11,176.58	242,942.42
June 1 2016	12,000.00	24,294.24	12,294.24	255,236.66
June 1 2017	12,000.00	25,523.67	13,523.67	268,760.33
June 1 2018	12,000.00	26,876.03	14,876.03	283,636.36
June 1 2019	12,000.00	28,363.64	16,363.64	300,000.00
		$128,234.16	$68,234.16	

(d)

	June 1, 2014	
Land.....	231,766	
Notes Payable.....		231,766

PROBLEM 14-2 (Continued)

(e)

December 31, 2014		
Interest Expense	13,519.67	
Notes Payable		6,519.67
Interest Payable		7,000.00
($23,176.58 X 7/12 = $13,519.67)		
($11,176.58 X 7/12 =$6,519.67)		
June 1, 2015		
Interest Expense	9,656.91	
Interest Payable.....	7,000.00	
Notes Payable		4,656.91
Cash		12,000.00
($23,176.58 X 5/12 = $9,656.91)		
($11,176.58 X 5/12 =$4,656.91)		

(f) 1. Using the alternative of the instalment note, the land is capitalized at the present value of the annuity payment at the end of each of the next five years which will correspond to the same value as that arrived at for the mortgage note, imputed at 10% interest. The present value is $231,766.

Using tables:

$231,766 ÷ 3.79079 ($PVOA_{5, 10\%}$) = $61,139.23

Using a financial calculator:

PV	$ 231,766	
I	10%	
N	5	
PMT	$?	Yields $(61,139.24)
FV	$ 0	
Type	0	

Excel formula =PMT(rate,nper,pv,fv,type)

PROBLEM 14-2 (Continued)

2.

Instalment Note Payable

Date	Cash Paid	10% Interest Expense	Discount Amortized	Note Carrying Amount
June 1 2014				$231,765.84
June 1 2015	$61,139.24	$23,176.58	$37,962.66	193,803.18
June 1 2016	61,139.24	19,380.32	41,758.93	152,044.25
June 1 2017	61,139.24	15,204.43	45,934.82	106,109.43
June 1 2018	61,139.24	10,610.94	50,528.30	55,581.13
June 1 2019	61,139.24	5,558.11	55,581.13	0.00
		$73,930.38	$231,765.84	

3.

June 1, 2014		
Land	231,766	
Notes Payable		231,766

4.

December 31, 2014		
Interest Expense	13,519.67	
Interest Payable		13,519.67
($23,176.58 X 7/12 = $13,519.67)		
June 1, 2015		
Interest Expense	9,656.91	
Interest Payable	13,519.67	
Notes Payable	37,962.66	
Cash		61,139.24

PROBLEM 14-2 (Continued)

5.

The classification of the Mortgage Note on the December 31, 2014 statement of financial position is:

Current liabilities:	
Interest payable	**$7,000**
Non-current liabilities:	
Mortgage note payable, due June 1, 2019 ($231,766 + $6,520)	**238,286**

The classification of the Instalment Note on the December 31, 2014 statement of financial position is:

Current liabilities:	
Interest payable	**$13,519**
Instalment note payable, current portion	**37,963**
Non-current liabilities:	
Instalment note payable, (due in annual payments of $61,139 ending June 1, 2019) ($231,766 – $37,963)	**193,803**

6. Silverman Corporation would insist on the instalment note in order to secure larger cash inflows during the term of the note and to reduce the risk of having to collect the note principal in the case of a default by MacDougall.

PROBLEM 14-3

(a) The bonds were sold at a discount of $5,651. Evidence of the discount is the January 1, 2014 carrying amount of $94,349, which is less than the maturity value of $100,000 in 2023.

(b) The interest allocation and bond discount amortization are based upon the effective interest method; this is evident from the increasing interest charge. Under the straight-line method the amount of interest would have been $11,565.10 [$11,000 + ($5,651 ÷ 10)] for each year of the term of the bonds.

Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

(c) The stated rate is 11% ($11,000 ÷ $100,000). The effective rate is 12% ($11,322 ÷ $94,349).

PROBLEM 14-3 (Continued)

(d)	**January 1, 2014**		
	Cash	**94,349**	
	Bonds Payable		**94,349**
(e)	**December 31, 2014**		
	Interest Expense	**11,322**	
	Bonds Payable		**322**
	Interest Payable		**11,000**
(f)	**January 1, 2022 (Interest Payment)**		
	Interest Payable	**11,000**	
	Cash		**11,000**
	December 31, 2022		
	Interest Expense	**11,797**	
	Bonds Payable		**797**
	Interest Payable		**11,000**

PROBLEM 14-4

(a) The present value of the future cash flows totals $2,061,440. The applicable Excel formula follows:

Excel formula =PV(rate,nper,pmt,fv,type)

=PV(.10,10,-210,000,-2,000,000,0) where .10 designates the interest rate (Rate), the 10 is for the term (Nper), the outflow of $210,000 is the annuity payment (Pmt) based on the 10.5% interest rate, the outflow of $2,000,000 is future value (Fv), and the zero designates that the annuity is a regular annuity (Type).

Using tables:

Present value of the principal	
$2,000,000 X .38554 ($PV_{10, 10\%}$)	**$771,080**
Present value of the interest payments	
$210,000* X 6.14457 ($PVOA_{10, 10\%}$)	**1,290,360**
Present value (selling price of the bonds)	**$2,061,440**

***$2,000,000 X 10.5% = $210,000**

Using a financial calculator:

PV	**$?**	**Yields $2,061,446**
I	**10%**	
N	**10**	
PMT	**$ (210,000)**	
FV	**$ (2,000,000)**	
Type	**0**	

Cash	**2,011,440**	
Bonds Payable ($2,000,000 + $61,440 – $50,000)		**2,011,440**

PROBLEM 14-4 (Continued)

(b)

Date	Cash Payment 10.5%	Interest Expense 10.4053%	Discount Amortiza-tion	Carrying Amount of Bonds
1/1/14				$2,011,440
1/1/15	$210,000	$209,296	$704	2,010,736
1/1/16	210,000	209,223	777	2,009,959
1/1/17	210,000	209,142	858	2,009,101
1/1/18	210,000	209,053	947	2,008,154
1/1/19	210,000	208,954	1,046	2,007,108

(c)

Carrying amount as of 1/1/17	$2,009,101
Less: Amortization of bond premium ($947 ÷ 2)	474
Carrying amount as of 7/1/17	$2,008,627
Reacquisition price	$1,065,000
Carrying amount as of 7/1/17 of bond ($2,008,627 ÷ 2)	(1,004,314)
Loss on Redemption	$ 60,686

Entry for accrued interest

Interest Expense	52,263	
Bonds Payable ..... ($947 X 1/2 X 1/2)	237	
Cash ..... ($210,000 X 1/2 X 1/2)		52,500

PROBLEM 14-4 (Continued)

(c) (Continued)

Entry for reacquisition		
Bonds Payable	**1,000,000**	
Loss on Redemption of Bonds	**60,686**	
Bonds Payable*	**4,314**	
Cash		**1,065,000**

***Premium as of 7/1/17 to be written off**
($2,008,627 – $2,000,000) X 1/2 = $4,314

(d)
By choosing to carry the bonds at fair value and expensing the costs of issuing the bond in the amount of $50,000, the premium on bonds payable would increase at the date of issuance by the $50,000 expensed at issue. Correspondingly, the interest expense recorded each year would be lower by the amount charged to expense using the effective interest method for the amortization of the additional $50,000 (the effective interest rate would be 10% instead of the 10.4953% required due to the capitalization of the bond issue costs). In total, the periodic expense would be lower over the 10-year term of the bond by $50,000, equal to the expense recognized at issuance. The total costs would be ultimately charged to income. The only difference would be that the charge would be completely expensed in the year the bond was issued as opposed to spread over the ten-year term of the bond.

Note: When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs.

However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value option or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].

PROBLEM 14-5

1. Armstrong Inc.

3/1/14	Cash	1,888,352	
	Bonds Payable		1,888,352

Maturity value of bonds payable		$2,000,000
Present value of $2,000,000 due in 7 periods at 6% ($2,000,000 X .66506)	$1,330,120	
Present value of interest payable Semiannually at 6% ($100,000 X 5.58238)	558,238	
Proceeds from sale of bonds		(1,888,358)
Discount on bonds payable		$111,642

Using a financial calculator:

PV	$?	Yields $1,888,352
I	6%	
N	7	
PMT	$ (100,000)	
FV	$ (2,000,000)	
Type	0	

Excel formula = PV(rate,nper,pmt,fv,type)

A more accurate result is obtained compared to using factors from tables as there are a limited number of decimal places in the tables.

9/1/14	Interest Expense.....	113,301	
	Bonds Payable		13,301
	Cash		100,000
12/31/14	Interest Expense.....	76,066	
	Bonds Payable ..... ($14,099 X 4/6)		9,399
	Interest Payable ($100,000 X 4/6).		66,667

PROBLEM 14-5 (Continued)

3/1/15	Interest Expense	38,033	
	Interest Payable	66,667	
	Bonds Payable ($14,099 X 2/6)		4,700
	Cash		100,000
9/1/15	Interest Expense	114,945	
	Bonds Payable		14,495
	Cash		100,000
12/31/15	Interest Expense	77,228	
	Bonds Payable ($15,842 X 4/6)		10,561
	Interest Payable		66,667

Schedule of Bond Discount Amortization
Effective Interest Method
10% Bonds Sold to Yield 12%

Date	Cash Paid	Interest Expense	Discount Amortized	Carrying Amount of Bonds
3/1/14				$1,888,352
9/1/14	$100,000	$113,301	$13,301	1,901,654
3/1/15	100,000	114,099	14,099	1,915,753
9/1/15	100,000	114,945	14,945	1,930,698
3/1/16	100,000	115,842	15,842	1,946,540
9/1/16	100,000	116,792	16,792	1,963,332
3/1/17	100,000	117,800	17,800	1,981,132
9/1/17	100,000	118,868	18,868	2,000,000

PROBLEM 14-5 (Continued)

2. Ouelette Ltd.

6/1/14	Cash	6,193,896	
	Bonds Payable		6,193,896

The present value of the future cash flows totals $6,193,896.38. The applicable Excel formula follows:

=PV(.05,8,-330,000,-6,000,000,0) where .05 designates the interest rate (Rate), the 8 is for the term (Nper), the outflow of $330,000 is the annuity payment (Pmt), the outflow of $6,000,000 is future value (Fv) the zero designates that the annuity is a regular annuity (Type).

Using present value tables:

Maturity value of bonds payable		$6,000,000
Present value of $6,000,000 due in 8 periods at 5% ($6,000,000 X .67684)	$4,061,040	
Present value of interest payable semiannually ($330,000 X 6.46321)	2,132,859	
Proceeds from sale of bonds		6,193,899
Premium on bonds payable		$ 193,899

Using a financial calculator:

PV	$?	Yields $6,193,896
I	5%	
N	8	
PMT	$ (330,000)	
FV	$ (6,000,000)	
Type	0	

Excel formula =PV (rate, nper, pmt, fv, type)

PROBLEM 14-5 (Continued)

12/1/14	Interest Expense	309,695	
	Bonds Payable	20,305	
	Cash ($6,000,000 X .11 X 6/12)		330,000
12/31/14	Interest Expense ($308,680 X 1/6)	51,447	
	Bonds Payable	3,553	
	Interest Payable ($330,000 X 1/6)		55,000
	($21,320 X 1/6)		
6/1/15	Interest Expense ($308,680 X 5/6)	257,233	
	Interest Payable	55,000	
	Bonds Payable	17,767	
	Cash		330,000
	($21,320 X 5/6)		
10/1/15	Interest Expense	41,015	
	($307,614 X .2* X 4/6)		
	Bonds Payable	2,985	
	Cash		44,000
	($22,386 X .2 X 4/6)		
	($330,000 X .2* X 4/6)		
	*$1,200,000 ÷ $6,000,000 = .2		
10/1/15	Bonds Payable	1,200,000	
	Bonds Payable	27,469	
	Loss on Redemption of Bonds	128,531	
	Cash		1,356,000

Reacquisition price ($1,400,000 – $44,000)		$1,356,000
Net carrying amount of bonds redeemed:		
Par value	$1,200,000	
Unamortized premium		
[(.2 X ($193,896–$20,305–$21,320)] – $2,985	27,469	(1,227,469)

Loss on redemption	**$ 128,531**

PROBLEM 14-5 (Continued)

12/1/15	Interest Expense ($307,614 X .8*)	246,091	
	Bonds Payable ($22,386 X .8).....	17,909	
	Cash ($330,000 X .8).....		264,000
	*($6,000,000 – $1,200,000) ÷ $6,000,000 = .8		
12/31/15	Interest Expense.....	40,866	
	($306,494 X .8 X 1/6)		
	Bonds Payable.....	3,134	
	($23,506 X .8 X 1/6)		
	Interest Payable.....		44,000
	($330,000 X .8 X 1/6)		
6/1/16	Interest Expense ($306,494 X .8 X 5/6)	204,329	
	Interest Payable.....	44,000	
	Bonds Payable.....	15,671	
	($23,506 X .8 X 5/6)		
	Cash ($330,000 X .8).....		264,000
12/1/16	Interest Expense ($305,319 X .8).....	244,255	
	Bonds Payable ($24,681 X .8).....	19,745	
	Cash ($330,000 X .8).....		264,000

Date	Cash Paid	Interest Expense	Premium Amortized	Carrying Amount of Bonds
6/1/14				$6,193,896
12/1/14	$330,000	$309,695	$20,305	6,173,591
6/1/15	330,000	308,680	21,320	6,152,271
12/1/15	330,000	307,614	22,386	6,129,885
6/1/16	330,000	306,494	23,506	6,106,379
12/1/16	330,000	305,319	24,681	6,081,698
6/1/17	330,000	304,085	25,915	6,055,783
12/1/17	330,000	302,789	27,211	6,028,572
6/1/18	330,000	301,428	28,572	6,000,000

PROBLEM 14-6

(a)

May 1, 2014		
Cash ($700,000 X 105%) + ($700,000 X 12% X 4/12)	763,000	
Bonds Payable ($763,000 – $28,000)		735,000
Interest Expense ($700,000 X 12% X 4/12)		28,000
December 31, 2014		
Interest Expense ($700,000 X 12%)	84,000	
Interest Payable		84,000
Bonds Payable	2,414	
Interest Expense ($35,000 X 8/116* = $2,414)		2,414
*(12 X 10) – 4 = 116		
January 1, 2015		
Interest Payable	84,000	
Cash		84,000
April 1, 2015		
Bonds Payable	543	
Interest Expense ($35,000 X 3/116 X .60*)		543
*$420,000 / $700,000 = .60		
Bonds Payable	439,009*	
Interest Expense ($420,000 X .12 X 3/12)	12,600	
Cash ($432,600 + $12,600)		445,200
Gain on Redemption of Bonds		6,409**

* next page

**[($420,000 + $19,009) – $420,000 X 103%)] – next page

PROBLEM 14-6 (Continued)

(a) (Continued)

Reacquisition price (including accrued interest)	
($420,000 X 103%) + ($420,000 X 12% X 3/12).....	$445,200
Net carrying amount of bonds redeemed:	
Par value	420,000
Unamortized premium	
[$35,000 X ($420,000 ÷ $700,000) X 105/116].....	19,009
Net carrying amount of bonds redeemed*.....	439,009
Accrued interest ($420,000 X 12% X 3/12).....	12,600
	451,609
Gain on redemption.....	$ 6,409

	December 31, 2015	
Interest Expense ($280,000 X .12).....	33,600	
Interest Payable.....		33,600
Bonds Payable.....	1,448	
Interest Expense		1,448

Amortization per year on $280,000
($35,000 X 12/116 X .40*)..... $1,448

* ($700,000 – $420,000) ÷ $700,000 = .40

(b)

If Pfaff were to follow IFRS, then the effective interest method must be used to amortize any discounts or premiums. Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

PROBLEM 14-7

(a) December 31, 2014

Machinery.....	409,806	
Notes Payable.....		409,806
(Machine capitalized at the present value of the note—$600,000 X .68301)		

Using a financial calculator:

PV	$?	Yields $409,808
I	10%	
N	4	
PMT	$ 0	
FV	$ (600,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

(b) December 31, 2015

Depreciation Expense.....	67,961	
Accumulated Depreciation—Machinery		67,961
[($409,806 – $70,000) ÷ 5]		
Interest Expense.....	40,981	
Notes Payable.....		40,981

Schedule of Note Discount Amortization

Date	Debit, Interest Expense Credit Notes Payable	Carrying Amount of Note
12/31/14		$409,806.00
12/31/15	$40,980.60	450,786.60
12/31/16	45,078.66	495,865.26
12/31/17	49,586.53	545,451.79
12/31/18	* 54,548.21	600,000.00

* $3.03 adjustment due to rounding

PROBLEM 14-7 (Continued)

(c)

	December 31, 2016	
Depreciation Expense	67,961	
Accumulated Depreciation—Machinery		67,961
Interest Expense	45,079	
Notes Payable		45,079

(d) **Debt to total assets is a measure of debt-paying ability and long-run solvency. Prior to purchasing the machine, the company's debt to total assets ratio was 48.2% ($432,000 ÷ $896,000). As a result of the purchase, the debt to total assets ratio increased to 64.5% [($432,000 + $409,806) ÷ ($896,000 + $409,806)]. The percentage of total assets provided by creditors increased, which a creditor would view as unfavourable. The creditor may also consider that while the non-interest bearing note payable is included in debt in the debt to total assets ratio, it will not result in cash outflow until it is due in four years.**

PROBLEM 14-8

(a)

Entry to record the issuance of the 11% bonds on December 18, 2014:

Cash	4,080,000	
Bonds Payable		4,080,000

Entry to record the retirement of the 9% bonds on January 2, 2015:

Bonds Payable.....	2,940,000	
Loss on Redemption of Bonds	180,000	
Cash ($3,000,000 x 104%).....		3,120,000

At January 2, 2015 the carrying amount of the retired bonds is:

Bonds payable	$3,000,000
Less unamortized discount ($150,000 X 10/25)	60,000
Bond carrying amount	$2,940,000

(b)

Income from operations	$3,200,000
Loss on redemption of bonds (Note 1)	180,000
Income before tax	3,020,000
Income tax	755,000
Net income	$2,265,000
Earnings per share:	
Net income	$1.51

Note 1. Bond Redemption:

A loss of $180,000 occurred from the redemption and retirement of $3,000,000 of the Corporation's outstanding bond issue due in 2025. The bonds were redeemed at 104% as provided for in the bond indenture. The funds used to repurchase the mortgage bonds represent a portion of the proceeds from the sale of $4,000,000 of 11% debenture bonds issued December 18, 2014 and due in 2034.

PROBLEM 14-9

(a) Wilkie Inc.

Selling price of the bonds ($4,000,000 X 103%)	$4,120,000
Accrued interest from January 1 to February 28, 2015 ($4,000,000 X 9% X 2/12)	60,000
Total cash received from issuance of the bonds	4,180,000
Less: Bond issuance costs*	27,000
Net amount of cash received	$4,153,000

*** When a note or bond is issued, it should be recognized at the fair value adjusted by any directly attributable issue costs. However, note that where the liabilities will subsequently be measured at fair value (e.g., under the fair value option or because they are derivatives), the transaction costs should not be included in the initial measurement (i.e., the costs should be expensed at the time of issuance) [*CICA Handbook*, Part II, Section 3856.07 and IAS 39.43].**

(b) Langley Ltd.

Carrying amount of the bonds on 1/1/14	$469,280
Effective interest rate (10%)	X 0.10
Interest expense to be reported for 2014	$ 46,928

Although the effective interest method is required under IFRS per IAS 39.47, accounting standards for private enterprises do not specify that this method must be used and therefore, the straight-line method is also an option. The straight-line method is valued for its simplicity and might be used by companies whose financial statements are not constrained by this specific element of GAAP.

PROBLEM 14-9 (Continued)

(c) Chico Building Inc.

2015	$400,000	2018	$200,000
2016	350,000	2019	350,000
2017	200,000	Thereafter	300,000

(d) Czeslaw Inc.

Since three bonds reported by Czeslaw Inc. are secured by either real estate, securities of other corporations, or plant equipment, there are no debenture bonds outstanding for the company.

PROBLEM 14-10

(a)

4/1/14	Cash (12,000 X $1,000 X 97%)	11,640,000	
	Bonds Payable		11,640,000

(b)

10/1/14	Interest Expense.....	672,000	
	Cash		660,000*
	Bonds Payable		12,000**

*$12,000,000 X .11 X 6/12 = $660,000

**$360,000 ÷ 180 months X 6 months = $12,000

(c)

12/31/14	Interest Expense.....	336,000	
	Interest Payable ..... ($660,000 X 3/6)		330,000
	Bonds Payable ..... ($2,000 X 3 months)		6,000

(d)

3/1/15	Interest Payable ($330,000 X ¼)	82,500	
	Interest Expense.....	56,000	
	Cash		137,500*
	Bonds Payable		1,000**

*Cash paid to retiring bondholders: $3,000,000 X .11 X 5/12 = $137,500

**$2,000/mo. X 2 months X ¼ of the bonds = $1,000

PROBLEM 14-10 (Continued)

At March 1, 2015 the carrying amount of the retired bonds is:

Bonds payable	$3,000,000
Less: unamortized discount	84,500*
Bond carrying amount	$2,915,500

*$2,000/mo. X 169 months X ¼ of the bonds = $84,500

The reacquisition price: 100,000 shares X $31 = $3,100,000.

The loss on extinguishment of the bonds is:

Reacquisition price	$3,100,000
Less: carrying amount	2,915,500
Loss	$ 184,500

The entry to record extinguishment of the bonds is:

Bonds Payable	2,915,500	
Loss on Redemption of Bonds	184,500	
Common Shares.....		3,100,000

PROBLEM 14-11

Using either a financial calculator or Excel the effective interest rate on the bonds is calculated as follows:

Excel formula =RATE(nper,pmt,pv,fv,type)

Using a financial calculator:

PV	$ 11,640,000	
I	? %	Yields 5.7113 %
N	30	
PMT	$ (660,000)	
FV	$ (12,000,000)	
Type	0	

Schedule of Bond Discount Amortization
Effective Interest Method
5.5% Semi-annual Bonds Sold to Yield 5.7113%

Date	5.5% Cash Paid	5.7113% Interest Expense	Discount Amortized	Carrying Amount
April 1 '14				$11,640,000.00
Oct. 1 '14	660,000.00	664,795.32	4,795.32	11,644,795.32
April 1 '15	660,000.00	665,069.20	5,069.20	11,649,864.52

(a)

4/1/14	Cash (12,000 X $1,000 X 97%)	11,640,000	
	Bonds Payable		11,640,000

PROBLEM 14-11 (Continued)

(b)

10/1/14	Interest Expense.....	664,795.32	
	Cash		660,000.00
	Bonds Payable		4,795.32

(c)

12/31/14	Interest Expense*	332,534.60	
	Interest Payable		330,000.00
	($660,000 X 3/6)		
	Bonds Payable		2,534.60
	($5,069.20 X 3/6 = $2,534.60)		

*($665,069.20 X 3/6) = $332,534.60

(d)

3/1/15	Interest Payable ($330,000 X ¼)	82,500.00	
	Interest Expense.....	55,422.43**	
	Cash		137,500.00*
	Bonds Payable		422.43***

* Cash paid to retiring bondholders:
($3,000,000 X .11 X 5/12) = $137,500

** ($665,069.20 X 2/6 X ¼) = $55,422.43

*** ($5,069.20 X 2/6 X ¼) = $422.43

At March 1, 2015 the carrying amount of the retired bonds is:

Bonds payable			$3,000,000.00
Less: unamortized discount			87,745.09*
Bonds carrying amount			$2,912,254.91
*Balance of Discount	100%		25%
Balance at issuance	$360,000.00		
Amortization Oct. 1, 2014	(4,795.32)		
Accrual December 31, 2014	(2,534.60)		
Balance December 31, 2014	$352,670.08	X ¼ =	$88,167.52
March 1, 2015 for 25%			(422.43)
Balance March 1, 2015			$87,745.09

PROBLEM 14-11 (Continued)

The reacquisition price: 100,000 shares X $31 = $3,100,000.

The loss on extinguishment of the bonds is:

Reacquisition price	$3,100,000.00
Less: carrying amount of bonds	2,912,254.91
Loss	$ 187,745.09

The entry to record extinguishment of the bonds is:

Bonds Payable	2,912,254.91	
Loss on Redemption of Bonds	187,745.09	
Common Shares.....		3,100,000.00

PROBLEM 14-12

(a) The entries for the issuance of the note on January 1, 2014:

The present value of the note is: $1,200,000 X .68058 = $816,700 (Rounded by $4).

Using a financial calculator:

PV	$?	Yields $816,700
I	8%	
N	5	
PMT	$ 0	
FV	$ (1,200,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

Batonica Limited (Debtor):

Cash	816,700	
Notes Payable.....		816,700

Northern Savings Bank (Creditor):

Notes Receivable	816,700	
Cash		816,700

PROBLEM 14-12 (Continued)

(b) The amortization schedule for this note is:

SCHEDULE FOR INTEREST AND DISCOUNT AMORTIZATION—EFFECTIVE INTEREST METHOD
$1,200,000 NOTE ISSUED TO YIELD 8%

Date	Cash Interest	Effective Interest	Discount Amortized	Carrying Amount
1/1/14				$ 816,700
12/31/14	$0	$ 65,336*	$ 65,336	882,036**
12/31/15	0	70,563	70,563	952,599
12/31/16	0	76,208	76,208	1,028,807
12/31/17	0	82,305	82,305	1,111,112
12/31/18	0	88,888	88,888	1,200,000
Total	$0	$383,300	$383,300	

*$816,700 X 8% = $65,336.
**$816,700 + $65,336 = $882,036.

(c) The note can be considered to be impaired only when it is measurable and likely that, based on current information and events, Northern Savings Bank will be unable to collect all amounts due (both principal and interest) according to the contractual terms of the loan.

PROBLEM 14-12 (Continued)

(d) The loss is computed as follows:

Carrying amount of loan (12/31/14)	$882,036[a]
Less: Present value of $800,000 due in 4 years at 8%	(588,024)[b]
Loss due to impairment	$294,012

[a] See amortization schedule from answer (b)
[b] $800,000 X .73503 = $588,024.

Using a financial calculator:

PV	$?	Yields $588,024
I	8%	
N	4	
PMT	$ 0	
FV	$ (800,000)	
Type	0	

December 31, 2014

Batonica Limited (Debtor):
No entry.

Northern Savings Bank (Creditor):

Bad Debt Expense	294,012	
Allowance for Doubtful Accounts.		294,012

Note to Instructor: Since this note is not yet restructured, the loss is treated as an allowance.

PROBLEM 14-13

(a) The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and therefore the test to establish whether there is a settlement or not, revolves around the cash flows. The present value of both of the cash flow streams of the new debt are calculated using the historical interest rate of 12% for consistency and comparability.

Pre-restructure carrying amount		$600,000
Present value of restructured cash flows:		
Present value of $600,000 due in 10 years at 12%, interest payable annually; ($600,000 X .32197)	$193,182	
Present value of $30,000 interest payable annually for 10 years at 12% ($30,000 X 5.65022)	169,507	(362,689)
Difference		$237,311

Using a financial calculator:

PV	$?	Yields $362,691
I	12%	
N	10	
PMT	$ (30,000)	
FV	$ (600,000)	
Type	0	

As the present value of the new debt is more than 10% different from the present value of the old debt (using the original rate), this is a substantial change and the transaction is accounted for as a settlement by Perkins and new debt is recorded.

The new debt is recorded at the present value of the new cash flows using the current market rate of interest.

PROBLEM 14-13 (Continued)

(b)

1. Perkins Inc.

Notes Payable……	**$600,000**	
Gain on Restructuring of Debt……		**$237,311**
Notes Payable……		**$362,689**

2. United Bank

Bad Debt Expense.....	**237,311***	
Notes Receivable.....		**237,311**

***Calculation of loss.**

Pre-restructure carrying amount		**$600,000**
Present value of restructured cash flows:		
Present value of $600,000 due in 10 years at 12%, interest payable annually; ($600,000 X .32197)	**$193,182**	
Present value of $30,000 interest payable annually for 10 years at 12% ($30,000 X 5.65022)	**169,507**	**(362,689)**
Creditor's loss on restructure		**$237,311**

(c) Losses are now calculated based upon the discounted present value of future cash flows; thus, this fairly approximates the economic loss to the lender.

The debtor recognizes a gain which reflects the fact that they are now paying lower interest. Care should be taken to ensure the reason for the gain is clearly noted in the statements as this is material information and the gain has been generated solely due to the fact that the entity is in financial distress.

PROBLEM 14-14

(a)

On the books of Shahani Corporation:		
Notes payable	**3,000,000**	
Common Shares		**2,200,000**
Gain on Restructuring of Debt		**800,000**

Fair value of equity	**$2,200,000**
Carrying amount of debt	**3,000,000**
Gain on restructuring of debt	**$ 800,000**

On the books of Bajwa National Bank:		
Investment in Shahani	**2,200,000**	
Allowance for Doubtful Accounts (or Bad Debt Expense)	**800,000**	
Notes Receivable		**3,000,000**

(b)

On the books of Shahani:		
Notes Payable	**3,000,000**	
Land		**1,050,000**
Gain on Disposal of Land		**1,450,000**
Gain on Restructuring of Debt		**500,000**

Fair value of land	**$2,500,000**
Carrying amount of land	**1,050,000**
Gain on disposal of land	**$1,450,000**

Note payable (carrying amount)	**$3,000,000**
Fair value of land	**2,500,000**
Gain on restructuring of debt	**$ 500,000**

PROBLEM 14-14 (Continued)

On the books of Bajwa National Bank:		
Investment in Land	**2,500,000**	
Allowance for Doubtful Accounts (or Bad Debt Expense)	**500,000**	
Notes Receivable		**3,000,000**

(c)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $3,000,000.
Present value of new debt is calculated as follows:
Using tables:

		10% Factor	Present Value
Single amount	**$ 3,000,000**	**0.75132**	**$ 2,253,960**

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	**$?**	**Yields $2,253,944**
I	**10%**	
N	**3**	
PMT	**$ 0**	
FV	**$ (3,000,000)**	
Type	**0**	

PROBLEM 14-14 (Continued)

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $3,000,000, the renegotiated debt is considered a settlement and a gain is recorded by Shahani as calculated below:

The amount of the new debt is recorded at the new cash flows at the current market rate of interest, which is 12%

Using a financial calculator:

PV	$?	Yields $2,135,341
I	12%	
N	3	
PMT	$ 0	
FV	$ (3,000,000)	
Type	0	

Notes Payable	3,000,000	
.....		
Gain on Restructuring of Debt..		864,659
Notes Payable.....		2,135,341

On the books of Bajwa National Bank:

Bad Debt Expense.....	746,040*	
Notes Receivable		746,040

***Calculation of loss:**

Pre-restructure carrying amount	$3,000,000
Less: Present value of restructured cash flows:	
Present value of $3,000,000 due in 3 years at 10% ($3,000,000 X .75132)	2,253,960
Creditor's loss on restructure	$ (746,040)

PROBLEM 14-14 (Continued)

(d)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $3,000,000.
Present value of new debt is calculated as follows:

Using present value tables:

		10% Factor	Present Value
Single amount	$ 2,300,000	0.75132	$ 1,728,036
Interest payments for three years	207,000	2.48685	514,778
(reduce for first year)	(207,000)	.90909	(188,182)
			$2,054,632

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $3,000,000, the renegotiated debt is considered a settlement and a gain is recorded by Shahani as set out below:

The amount of the new debt is recorded at the new cash flows at the current market rate of interest, which is 12%

PROBLEM 14-14 (Continued)

Using present value tables:

		12% Factor	Present Value
Single amount	$ 2,300,000	0.71178	$ 1,637,094
Interest payments for three years	207,000	2.40183	497,179
(reduce for first year)	(207,000)	.89286	(184,822)
			$1,949,451

Notes Payable		3,000,000	
Gain on Restructuring of Debt.			1,050,549
Notes Payable.....			1,949,451

On the books of Bajwa National Bank:

Bad Debt Expense.....	945,368*	
Notes Receivable		945,368

*Calculation of loss:

Pre-restructure carrying amount		$3,000,000
Present value of restructured cash flows:		
Present value of $2,300,000 due in 3 years at 10%, ($2,300,000 X .75132)	$1,728,036	
Present value of $207,000 interest payable annually for 3 years at 10%, ($207,000 X 2.48685)	514,778	
Less first year payment:		
Present value of $207,000 interest due in 1 year at 10% ($207,000 X .90909)	(188,182)	(2,054,632)
Creditor's loss on restructure		$ (945,368)

PROBLEM 14-15

(a) The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 15% for consistency and comparability.

Present value of old debt is $250,000 + accrued interest of $37,500 for a total of $287,500.
Present value of new debt is calculated as follows:
Using present value tables:

		15% Factor	Present Value
Single amount, 4 years	$ 150,000	0.57175	$ 85,763
Interest annuity, 4 years ($150,000 X 6 %)	9,000	2.85498	25,695
			111,458
Shares given 60,000 X $1.40			84,000
			$195,458

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $287,500, the renegotiated debt is considered a settlement and a gain is recorded by Dilemma as follows:

2014		
Entries by Dilemma Inc.:		
Interest Payable	37,500	
Notes Payable	250,000	
Notes Payable		111,458
Common Shares		84,000
Gain on Restructuring of Debt		92,042

PROBLEM 14-15 (Continued)

The note payable now has a balance of $111,458, which equals the present value of the future cash flows to be paid.

Date	6% Cash Interest	15% Effective Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/14				$111,458
12/31/15	$9,000[a]	$16,719[b]	$ 7,719[c]	119,177
12/31/16	9,000	17,877	8,877	128,054
12/31/17	9,000	19,208	10,208	138,262
12/31/18	9,000	20,738*	11,738	150,000

[a]$9,000 = $150,000 X .06
[b]$16,719 = $111,458 X 15%
[c]$7,719 = $16,719 – $9,000
*Adjusted due to rounding.

Dec. 31, 2015:		
Interest Expense	16,719	
Notes Payable.....		7,719
Cash		9,000
Dec. 31, 2016:		
Interest Expense	17,877	
Notes Payable.....		8,877
Cash		9,000
Dec. 31, 2017		
Interest Expense	19,208	
Notes Payable.....		10,208
Cash		9,000
Dec. 31, 2018		

Interest Expense	**20,738**	
.....		
Notes Payable.....		**11,738**
Cash		**9,000**
Notes Payable.....	**150,000**	
Cash		**150,000**

PROBLEM 14-15 (Continued)

(b)

To record the restructuring on the books of Stauskas Bank:

Bad Debt Expense	92,042*	
FV-NI Investment	84,000	
Notes Receivable		138,542
Interest Receivable		37,500

(1) Face value of old debt		$250,000
Net carrying amount of old debt (below)	$203,500	
Less: face value of new debt	150,000	53,500
		$196,500

*Calculation of loss:

Pre-restructure carrying amount ($250,000 + $37,500)		$287,500
Less: settlement consideration (shares)		84,000
Net carrying amount		203,500
Less: Present value of restructured cash flows:		
Present value of $150,000 due in 4 years at 15%, ($150,000 X .57175)	$85,763	
Present value of $9,000 interest payable annually for 4 years at 15% ($9,000 X 2.85498)	25,695	111,458
Creditor's loss on restructure		$ (92,042)

PROBLEM 14-15 (Continued)

Date	6% Cash Interest	15% Effective Interest	Increase in Carrying Amount	Carrying Amount of Note
12/31/14				$111,458
12/31/15	$9,000[a]	$16,719[b]	$ 7,719[c]	119,177
12/31/16	9,000	17,877	8,877	128,054
12/31/17	9,000	19,208	10,208	138,262
12/31/18	9,000	20,738*	11,738	150,000

[a] $9,000 = $150,000 X .06
[b] $16,719 = $111,458 X 15%
[c] $7,719 = $16,719 – $9,000
* Adjusted due to rounding.

To record interest income in the periods subsequent to the restructuring:

Dec. 31, 2015:		
Cash	9,000	
.....		
Notes Receivable.....	7,719	
Interest Income.....		16,719
Dec. 31, 2016:		
Cash	9,000	
Notes Receivable.....	8,877	
Interest Income.....		17,877
Dec. 31, 2017:		
Cash	9,000	
.....		
Notes Receivable.....	10,208	
Interest Income.....		19,208
Dec. 31, 2018:		
Cash	9,000	
.....		
Notes Receivable.....	11,738	
Interest Income.....		20,738

Cash	**150,000**	
Notes Receivable		**150,000**

PROBLEM 14-16

(a) September 30, 2014

Thornton:

Interest Receivable ($300,000 X .12 X 9/12)	27,000	
Interest Income		27,000
Loss on Investments.....R	47,000	
Cash	280,000	
Interest Receivable		27,000
Notes Receivable		300,000

This would not be a troubled debt restructuring.

Shutdown: No entry. Shutdown does not have a troubled debt restructuring.

Orsini:

Interest Income*	27,000	
Notes Receivable.....	253,000	
Cash		280,000

***A debit to Interest Receivable is also appropriate. This would not be a troubled debt restructuring.**

PROBLEM 14-16 (Continued)

(b) December 31, 2014

Shutdown:

Interest Expense ($300,000 X .12)	36,000	
Interest Payable		36,000
Notes Payable	300,000	
Interest Payable	36,000	
Cost of Goods Sold	240,000	
Inventory		240,000
Gain on Restructuring of Debt		21,000
Sales Revenue		315,000

This would be a troubled debt restructuring for Shutdown, since the settlement, $315,000, is less than the carrying amount of the debt, $336,000.

Orsini:

Interest Receivable ($300,000 X .12)	36,000*	
Interest Income		36,000

*Only net of $9,000 reported as interest income because $27,000 of accrued interest was purchased in September.

Inventory	315,000	
Notes Receivable		253,000
Interest Receivable		36,000
Gain on Investments		26,000

This would not be a troubled debt restructuring.

(Note to instructor: This problem indicates that symmetry may not always be achieved between the debtor and creditor and that the debtor may have a restructuring but the creditor, if changed, may not.)

PROBLEM 14-17

(a)

The first step is to determine the economic substance of the debt renegotiation and determine if it should be accounted as a settlement or a modification/exchange regarding the old debt. In this case, the creditor is the same and so is the currency and therefore the test to establish whether there is a settlement or not revolves around the cash flows. The present value of the cash flow streams of the new debt are calculated using the historical interest rate of 10% for consistency and comparability.

Present value of old debt is $110,000 + $11,000 = $121,000.
Present value of new debt is calculated as follows:
Using present value tables:

		10% Factor	Present Value
Single amount, 3 years	$ 100,000	0.75132	$ 75,132
Interest annuity, 3 years	10,000	2.48685	24,868
			$100,000

Excel formula =PV(rate,nper,pmt,fv,type)

Using a financial calculator:

PV	$?	Yields $100,000
I	10%	
N	3	
PMT	$ (10,000)	
FV	$ (100,000)	
Type	0	

Since the present value of the future cash flows of the new debt differs by an amount larger than 10% of the present value of the future cash flows of the old debt in the amount of $121,000 the renegotiated debt is considered a settlement. The old debt would be removed from the books, the new debt recognized and the difference would be recorded as a gain for Mazza.

PROBLEM 14-17 (Continued)

The effective interest rate subsequent to restructure is the current market rate of interest.

(b)

Mazza Corp.
SCHEDULE OF DEBT REDUCTION AND INTEREST EXPENSE AMORTIZATION

Date	Cash Interest	Effective Interest (Market)	Change in Carrying Amortized	Carrying Amount
12/31/14				$100,000
12/31/15	$10,000[a]	$10,000[b]	$ 0	100,000
12/31/16	10,000	10,000	0	100,000
12/31/17	10,000	10,000	0	100,000
12/31/17	100,000		100,000	-0-

[a] $10,000 = $100,000 X 10%.
[b] $10,000 = $100,000 X 10%.

(c)

Calculation of loss:	
Pre-restructure carrying amount	$121,000
Present value of restructured cash flows:	100,000
Tsang Corp.'s loss on restructure	$ (21,000)

Tsang Corp.

Date	Cash Interest	Effective Interest (Market)	Change in Carrying Amortized	Carrying Amount of Note
12/31/14				$100,000
12/31/15	$ 10,000[a]	$10,000[b]	$ 0	100,000
12/31/16	10,000	10,000	0	100,000
12/31/17	10,000	10,000	0	100,000
12/31/17	100,000	0	100,000	0

[a] $10,000 = $100,000 X 10%. [b] $10,000 = $100,000 X 10%.

PROBLEM 14-17 (Continued)

(d) Mazza Corp. entries:

	December 31, 2014		
Interest Payable		**11,000**	
Notes Payable		**110,000**	
Notes Payable			**100,000**
Gain on Restructuring of Debt			**21,000**
	December 31, 2015, 2016		
Interest Expense		**10,000**	
Cash			**10,000**

(e) Tsang Corp. entries:

	December 31, 2014		
Bad Debt Expense		**21,000**	
Notes Receivable			**21,000**
Note that the dr. could be booked to the Allowance account instead if the loss had already been provided for.			
	December 31, 2015, 2016		
Cash		**10,000**	
Interest Income			**10,000**

CASES

Note: See the Case Primer on the Student website, as well as the Summary of the Case Primer in the front of the text. Note that the first few chapters in volume 1 lay the foundation for financial reporting decision making.

CA 14-1 Pitt Corporation

Overview

- Company produces pop and is looking to obtain a steady supply of cans. It is considering entering into a project financing arrangement with ACC: its present can supplier, since the company has experienced financial difficulties and does not want to use conventional financing.
- ACC will be a user and will want to assess the financial position of the company.
- As controller, concerned about adding additional debt to the statement of financial position.
- GAAP likely a constraint since ACC would likely want to assess PC's ability to pay as would the bank—GAAP would provide more useful information. The controller would like to know where any differences exist between IFRS and ASPE.

CA 14-1 (Continued)

Analysis and recommendations

Issue: How to account for the project financing arrangement

Purchase commitment	Liability
- Executory contract. - Would not record as is simply a purchase commitment and a liability only arises once the cans are shipped. - Should note disclose only. - The building—even though on PC property – is owned by ACC for the first 20 years—PC does not have access to it nor control over it. - Does not affect debt on the statement of financial position.	- Is this really a project financing? - ACC is simply providing construction services for the building—which is really PC's building. - These services are being paid for over time (debt service component of the price of the cans) instead of upfront. - Since the plant ownership reverts to PC at the end and is on their land, it is likely an asset of PC. - Regardless of the above, PC has an obligation to pay the debt service cost shortfalls. The obligation is unavoidable and arises from the two-part plan/agreement. - The bank (who is financing the building of the plant) is looking to the purchase commitment for repayment of the loan - Risk that the company may be accused of having off the statement of financial position debt. - May also be seen as a financial guarantee which must be recognized if measurable.

CA 14-1 (Continued)

This is a tough issue since the arrangement is complicated. A case exists to note disclose only. If PC records a liability, it must also record an asset. The building is the property of ACC and since PC does not have control over it, it does not meet the definition of an asset. The liability to pay debt service is really a contingent liability since it would appear that ACC would be able to sell the cans even without PC at a good price sufficient to repay the debt. GAAP would be similar under IFRS and ASPE.

INTEGRATED CASES

IC 14-1 Finishing International Enterprise (FIE)

Overview

- Bank would like audited statements and debt covenant requires a debt/equity ratio of no more than 1/1. Therefore the statements must follow GAAP (may use ASPE or IFRS) and debt and equity are sensitive numbers – may be a bias to ensure that the debt covenant is not broken since they need to loan for expansion into US.
- Tony will look to the statements to assess financial position and performance.
- Formerly income tax minimization would have been the objective, since FIE is a private company. As such, FIE was not legally bound by GAAP. However, an audit is now required and there will be a bias to ensure that the debt covenants are met. As auditors must ensure that the statements are transparent. Differences between IFRS and ASPE will be noted.

Analysis and recommendations - MEMO

To: ***Tony and Heather***
From: ***Senior Accountant, Lento and Partners***
Re: ***Establishment of new accounting policies for Finishing International Enterprises***

Introduction

The following report has been prepared to analyze and recommend accounting policies, consistent with GAAP (IFRS or ASPE), for FIE. FIE has a choice to follow ASPE of IFRS. The accounting recommendations were made while keeping the debt-to-equity ratio in mind although ensuring fair presentation is the key goal. Differences in the accounting treatment between ASPE and IFRS are noted below.

IC 14-1 (Continued)

Warranty Expense

Issue Analysis: The cash method of accounting for warranty costs is acceptable when the costs are not material or when the warranty period is relatively short. It may also be acceptable when the amount of the liability cannot be reasonably estimated or if future costs are not likely to be incurred. However, the current warranty expense is material and can be estimated, therefore, the cash method is not acceptable.

We need to establish whether the FIE warranty is solely provided to make good on deficiencies in the tractors they delivered, or whether FIE sells warranties separately to cover problems that arise generally. If the former is the case, then FIE must record an additional liability for the remaining costs expected in the future related to the sales recognized in 2014. The company has recorded only $180,000 in expense for the warranty, however, the total estimated associated with the current year sales is $760,000 (2,000 x $380), therefore, liabilities are understated by $580,000. FIE has recorded the following entry:

Warranty Expense	**180,000**	
Cash, Inventory, Payroll		**180,000**

Under ASPE and IFRS, the additional liability must be recorded:

Warranty Expense	**580,000**	
Warranty Liability.....		**580,000**

However, if FIE sells warranties as separate deliverables, the revenue recognized in 2014 of 2,000 X $2,600 = $5,200,000 should be bifurcated into earned revenue for the tractors and an unearned amount representing the value assigned to the future warranty services sold.

IC 14-1 (Continued)

In this latter case, a portion of the unearned warranty revenue originally recognized would have to be transferred to earned revenue in 2014, probably on the basis of actual costs incurred in the year as a percentage of total expected costs. In this case, the remaining Unearned Warranty Revenue reported on the SFP would be higher than the expense approach amount of $580,000 calculated above.

Implication on D/E: More information is required to enable us to pin down the amount of adjustment required, but the $580,000 additional liability would be the least it could be. This negatively impacts the ratio as debt will increase by a minimum of $580,000, but, it is required for GAAP compliance. In addition, net income before income tax would be a minimum of $580,000 less than reported in the draft financial statements. This will reduce retained earnings and equity.

Contingent Liability

Issue Analysis: The loss should be accrued since both criteria (it is likely that a loss is incurred and the amount of the loss can be reasonably determined) for recording the contingency are met. When there is a range of estimates and no point estimate is more likely than another ($500,000 to $750,000), the lower end of the range is to be accrued under ASPE with the range disclosed. Therefore, $500,000 should be accrued.

However, given that the loss is covered by insurance, except for the $250,000 deductible, only the $250,000 should be accrued. Under IFRS, the amount to be accrued would be the probability weighted expected value of the loss (information not provided in the case).

Implication on D/E: This negatively impacts the ratio as debt will increase by $250,000, but, it is required for GAAP compliance.

IC 14-1 (Continued)

Interest Free Loan
Issue Analysis: Long-term debt is recorded at the present value (fair value) of the stream of payments. Currently, FIE recorded the liability originally at $2.5 million; however, this represents the undiscounted amount, and therefore, both assets and liabilities are overstated. The present value of the payments, discounted at n = 5 and i = 9%, is equal to $1,944,850 (PVIFA = 3.8897 x PMT = $500,000). The original entry should have been:

Capital Asset	**1,944,850**	
Long-Term Liabilities		**1,944,850**

The first payment was likely recorded as follows:

Long-Term Liabilities	**500,000**	
Cash		**500,000**

However, the loan should be amortized, with a portion of the payment going to interest expense and a portion to the principal repayment as follows:

Long-Term Liabilities	**324,966**	
Interest Expense	**175,034**	
Cash		**500,000**

The following loan amortization table has been prepared:

Period	Payment	Interest Expense	Amortization	Carrying Amount
				$1,944,826
1	$500,000	$175,034	$324,966	1,619,860
2	500,000	145,787	354,213	1,265,648
3	500,000	113,908	386,092	879,556
4	500,000	79,160	420,840	458,716
5	500,000	41,284	458,716	0

IC 14-1 (Continued)

The capital asset should be amortized based on this value, as opposed to the full $2,500,000. Based on a seven year useful life, amortization expense should be $277,835 as opposed to $357,152, an overstatement of expenses of $79,311.

Implication on D/E at year end: The implications for the D/E ratio are summarized as follows:

Long-term liability decrease by: $380,140 ($2,000,000 – $1,619,860)

Equity decrease by interest expense:	$175,034
Equity increases by decreased amortization expense:	(79,311)
Net decrease in equity	$95,723

Asset Retirement Obligation
Issue Analysis: The ARO should be recorded at the present value of the future obligation. At the beginning of the year when the ARO was incurred, FIE should have capitalized the asset retirement cost and record the ARO as follows:

Warehouse (ARO).....	**136,000**	
Asset Retirement Obligation		**136,000**

$200,000 X 0.68 (assuming an 8% rate)

Each year of the lease term the company would allocate asset retirement costs capitalized as follows:

Depreciation Expense.....	**27,200**	
Accumulated Depreciation - Buildings.....		**27,200**

[$136,000 / 5] $27,200

IC 14-1 (Continued)

Each year of the lease term the company would recognize the increase in ARO due to accretion and related operating expense as follows:

Year	Balance	Accretion (8%)
1	$136,000	$10,900
2	$136,000 + 10,900 = 146,900	$11,800
3	$146,900 + 11,800 = 158,700	$12,700
4	$158,700 + 12,700 = 171,400	$13,700
5	$171,400 + 13,700 = 185,100	$14,900

Balance of ARO at end of lease term = $200,000

Implication on D/E: The implications for the D/E ratio are summarized as follows:

ARO liability decrease to PV on Jan. 1/13: ($200,000 – $136,000)	($64,000)
ARO liability increase by accretion expense:	$22,700
Net decrease in liabilities:	($41,300)
Equity decrease by ARO amortization expense: ($27,200 x 2)	($54,400)
Equity decreases by accretion expense:	($22,700)
Net decrease in equity:	($77,100)

Redeemable and Retractable Shares
Issue Analysis: FIE issued 30,000 redeemable and retractable preferred shares at a value of $10 per share. FIE has classified the shares as equity, however, GAAP requires the financial instruments to be recorded based on the substance of the instrument as opposed to the legal form.

Elements of Equity

- Dividends are to be declared on a discretionary period after 2012.
- Dividends after 2012 are not cumulative.

IC 14-1 (Continued)

Elements of Debt

- Mandatory dividend payment of $2 per share requires the delivery of cash for the first five years.
- The shares are retractable at the discretion of the holder, therefore, requiring FIE to deliver cash. The likelihood of the holders retracting the shares is high given that after 5 years, the retraction period expires and dividends are no longer mandatory or cumulative.

Based on the substance of the transaction, ASPE/IFRS provides guidance on when preferred shares establish a contractual obligation to deliver cash indirectly through the terms and conditions, such as these preferred shares. These shares should be classified as a financial liability. As such, the dividend of $600 that went through the retained earnings should go through the income statement as interest expense. I have made the appropriate adjustments to the net income to reflect the substance of the financial instrument.

Implication on D/E: The debt is understated by $300,000 as it is currently reclassified as equity; furthermore, the dividends of $60,000 should be classified as interest expense, although this will not impact the total equity.

Payment of Dividend on Common Shares
Issue Analysis: Prior to paying the $800,000 dividend, Tony should be aware that the debt-to-equity ratio will change significantly from the current 0.56:1 after all of the required GAAP adjustments.

Summary: I have prepared Exhibit I to summarize the GAAP adjustments and the impact on the D/E ratio. After making all of the GAAP adjustments, the debt-to-equity ratio will be 1.49:1, definitely in violation of compliance with the covenants. Once the dividend is paid, equity will decrease by $800,000, and the ratio will increase to 3.09:1.

IC 14-1 (Continued)

Exhibit 1 - Recalculation of D/E Ratio

	Debt	**Equity**
Preliminary	1,600,000	2,850,000
Debt-to-equity ratio	0.56	1
GAAP Adjustments		
1) Warranty expense	580,000	(580,000)
2) Contingent liability	250,000	(250,000)
3) Interest free loan	(380,140)	(95,723)
4) Asset Retirement	(41,300)	(77,100)
5) Redeemable shares	300,000	(300,000)
Pre-dividend balances	2,308,560	1,547,177
Debt-to-equity ratio	1.49	: 1
Dividend		(800,000)
Adjusted balance	2,308,560	747,177
Adjusted D/E ratio	3.09	: 1

It is recommended that Tony does not pay the dividend, and that the Company seeks an alternative to avoid the covenant violation and classification of the long-term debt as current. Additional equity is required.

IC 14-2 - RTL

Overview:

- RTL is a private family run business so ASPE GAAP is an option. There are no future plans of going public so IFRS is not required.
- The bank will use the financial statements to assess going concern and RTL's ability to pay interest and principal.
- Management will use the financial statements to assess RTL's transition to digital printing and achievement of revenue targets.
- The auditors will be auditing the financial statements with a transparent reporting objective.
- There is a potential for management bias and aggressive accounting policies.
    - RTL's profits have been declining for the past 2 years and it has recently lost 50% of its revenue.
    - RTL also entered into an agreement with the bank for a restructuring of its loan.
- Our reporting objective as the controller is to fairly present the statements.

Issue: Recognition of the restructuring of debt.

A modification of debt can be treated as a settlement if the following condition is met.

If the discounted PV under the new terms (discounted at the original effective rate) is at least 10% different from the discounted PV of the remaining cash flows under the old debt – the old debt is treated as a settlement and removed from the books.

Old debt: $2,000,000 (debt is due end of 2012)
New debt: $1,500,000 (0.75132) + $120,000 (2.48685) = $1,425,402

IC 14-2 (Continued)

10% of the value of the old debt is $200,000. The difference between the old and new debt is greater than $200,000. Therefore this restructuring qualifies as a settlement of the old debt.

The discount rates are calculated using the following:
Discount rate of 0.75132 is the PV discount factor for a single sum (10%, 3 years)
Discount rate of 2.48685 is the PV discount factor for an ordinary annuity (10%, 3 years)

Using a financial calculator:

PV	$?	Yields $1,425,394
I	10%	
N	3	
PMT	$ (120,000)	
FV	$ (1,500,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

On the books the new debt is calculated using the current market discount rates using the following:

Discount rate of 0.77218 is the PV discount factor for a single sum (9%, 3 years)
Discount rate of 2.53130 is the PV discount factor for an ordinary annuity (9%, 3 years)

Using a financial calculator:

PV	$?	Yields $1,462,026
I	9%	
N	3	
PMT	$ (120,000)	
FV	$ (1,500,000)	
Type	0	

Excel formula =PV(rate,nper,pmt,fv,type)

IC 14-2 (Continued)

The following journal entry is required:

Debt (old).....	2,000,000	
Debt (new)		1,462,026
Gain on Restructuring of Debt		537,975

Issue: Revenue recognition of the digital contract sales.

Immediate recognition	Defer recognition
- Refundable fee – no additional service is required to be performed by RTL. The upfront fee is paid upfront ensuring collectability and measurability. - Minimum contract fee – RTL earns a minimal contract fee at the end of the contract term (2-3 years) even if no printing services are performed. - Another option is to recognize the refundable fee and the minimal contract fee over the duration of the contract.	- Refundable fee – the earnings process for the sales transaction is the entire duration of the contract. RTL must be available to perform printing services on-demand – the earnings process is not completed upon signing of the contract. - Minimal contract fee – same as above. - Risk still remains with RTL for the duration of the contract – for the on-demand printing services. - Collectability – may be an issue – 2 of RTL's digital customers have gone bankrupt. RTL does not have any history with digital customers – an appropriate estimate for an allowance for doubtful accounts may not be possible.

Conclusion: Depending on the significance of 2 digital customers that have filed for bankruptcy and RTL's limited digital sales history - collectability may be a concern and RTL should recognize the refundable fee and minimal contract fee at the end of the contract.

IC 14-2 (Continued)

Minor Issue: Recognition of an asset retirement obligation.

The $100,000 represents a constructive obligation. RTL is planning to sell the equipment to a vendor who will only purchase the digital printing equipment if RTL makes the necessary modifications to update the equipment and prepare it for sale.

The liability should have been recorded at PV (using the discount rate in effect at that time). The printing equipment asset should have increased by the PV of the obligation. Accretion expense should have been recorded for 2011 and 2012. As the accounting ledger for 2011 is now closed the correction must be recorded in the 2012 ledger. An adjustment to opening equity will be required. For 2012 the appropriate accretion expense must be recorded in the operating statement.

TIME AND PURPOSE OF WRITING ASSIGNMENTS

WA 14-1 (Time 15–20 minutes)

Purpose—to provide the student with an opportunity to advise management on the legal, accounting and reporting issues concerning derecognition of debt on the statement of financial position. Legal defeasance and in-substance defeasance are contrasted in this case.

WA 14-2 (Time 25–30 minutes)

Purpose—to provide the student with some familiarity with the economic theory that relates to the accounting for a bond issue. The student is required to discuss the conceptual merits for each of the three different statements of financial position presentations for the same bond issue as well as the merits of utilizing the nominal rate versus the effective rate at date of issue in the computation of the carrying value of the obligations arising from a bond issue.

WA 14-3 (Time 20–25 minutes)

Purpose—to provide the student with an understanding of the various accounts which are generated in a bond issue and their proper classifications on the statement of financial position. Included in this case, is non-market rate bonds related to government loans, and debt exchanged for assets. Justification must be provided for the treatment accorded these accounts in relation to the specifics of this case.

WA 14-4 (Time 20–25 minutes)

Part I: Purpose—to provide the student with an understanding of the significance of the difference between the effective interest method of amortization and the straight-line method of amortization.

Part II: Purpose—to provide the student with some familiarity with the various methods of accounting for gains and losses from the early extinguishment of debt, and of the justifications for each of the different methods.

WA 14-5 (Time 20-25 minutes)

Purpose—to provide students with an opportunity to understand the differences between ASPE and IFRS and the conceptual reasons for these differences.

TIME AND PURPOSE OF WRITING ASSIGNMENTS - (Continued)

WA 14-6 (Time 35-40 minutes)

Purpose—to provide students the opportunity to research issues regarding using credit risk adjusted discount rates in measuring liabilities.

SOLUTIONS TO WRITING ASSIGNMENTS

WA 14-1

Legal defeasance requires that the creditor agrees to collect principal and interest payments from the trust rather than from LL. A legal agreement on behalf of the creditor, the trust, and the debtor would be needed to achieve legal defeasance. Under IFRS, LL would be able to derecognize the liability if they obtain legal defeasance and extinguish the debt. In substance defeasance results when a company sets up a trust to repay the principal and interest payments for the debt without obtaining the creditors agreement. Without obtaining a legal agreement from the creditor, the primary obligation to repay the loan resides with LL. As a result, in substance defeasance does not result in derecognition of the liability according to IFRS.

For both legal and in substance defeasance there is an argument for derecognition of debt on the financial statements since LL has set up a trust with low risk investments that will be able to cover all future interest and principal payments. Effectively, by setting up the trust LL has prepaid the debt with low risk of default based on their investment strategy.

Regardless of the intent of the company, IFRS relies on the legal obligation when extinguishing debt. Therefore, if the agreement from the creditor has not been obtained, and only in substance defeasance occurs, the debt must remain on the statement of financial position. In order to extinguish the debt, LL needs to obtain a legal agreement from the creditor releasing them from the debt obligation and transferring that obligation to the trust. The ethical accountant must communicate this to the VP Finance and explain that without a formal agreement with the creditor, the debt cannot be extinguished on the LL financial statements.

WA 14-2

(a) 1. This is a common statement of financial position presentation and has the advantage of being familiar to users of financial statements. Although the face, or maturity value, of $1,000,000 is not shown in an obvious manner, the total of $1,075,230 is the objectively determined exchange price at which the bonds were issued. It represents the fair market value of the bond obligations given. Thus, this is in keeping with the generally accepted accounting practice of using exchange prices as a primary source of data.

2. This presentation indicates the dual nature of the bond obligations. There is an obligation to make periodic payments of $65,000 and an obligation to pay the $1,000,000 at maturity. The amounts presented on the statement of financial position are the present values of each of the future obligations discounted at the initial effective rate of interest.

   The proper emphasis is placed upon the accrual concept, that is, that interest accrues through the passage of time. The emphasis upon premiums and discounts is eliminated, and this might be useful supplemental information at the time of issuance of the bonds.

3. This presentation shows the total liability, which is incurred in a bond issue, but it ignores the time value of money. This would be a fair presentation of the bond obligations only if the effective interest rate were zero.

WA 14-2 (Continued)

(a)

When an entity issues interest-bearing bonds, it normally accepts two types of obligations: (1) to pay interest at regular intervals and (2) to pay the principal at maturity. The investors who purchase Branagh Limited bonds expect to receive $65,000 each January 1 and July 1 through January 1, 2034, plus $1,000,000 principal on January 1, 2034. Since this ($65,000) is more than the 12% per annum ($60,000 semiannually) that the investors would be willing to accept on an investment of $1,000,000 in these bonds, they are willing to bid up the price—to pay a premium for them.

The amount that the investors should be willing to pay for these future cash flows depends upon the interest rate that they are willing to accept on their investment(s) in this security which in turns, depends on the current market conditions when the bonds are issued and the prevailing rates for similar risk investments.

(b) The amount that the investors are willing to pay (and the issuer is willing to accept), $1,075,230, is the present value of the future cash flows discounted at the rate of interest that investors will accept.

Another way of viewing this is that the $1,075,230 is the amount that, if invested at an annual interest rate of 12% compounded semiannually, would allow withdrawals of $65,000 every six months from July 1, 2014, through January 1, 2034, and include $1,000,000 on January 1, 2034.

WA 14-2 (Continued)

(b)(Continued)

Assuming bonds are issued at their maturity value, the price paid is equal to the maturity value when the coupon rate is equal to the effective rate. If the bonds had been issued at their maturity value, the $1,000,000 would be the present value of future interest and principal payments discounted at an annual rate of 13% compounded semiannually.

Here the effective rate of interest is less than the coupon rate, so the price of the bonds is greater than the maturity value. If the effective rate of interest was greater than the coupon rate, the bonds would sell for less than the maturity value.

(c) 1. The use of the coupon rate for discounting bond obligations would give the face value of the bond at January 1, 2014, and at any interest-payment due thereafter. Although the coupon rate is readily available while the effective rate must be computed, the coupon rate may be set arbitrarily at the discretion of management so that there would be little or no support for accepting it as the appropriate discount rate.

2. The effective interest rate at January 1, 2014, is the market rate to Branagh Limited for long-term borrowing. This rate gives a discounted value for the bond obligations, which is the amount that could be invested at January 1, 2014, at the market rate of interest. This investment would provide the sums needed to pay the recurring interest obligation plus the principal at maturity. Thus, the effective interest rate is objectively determined and verifiable.

WA 14-2 (Continued)

(c) Continued

The market or yield rate of interest at the date of issue should be used throughout the life of the bond because it reflects the interest obligation which the issuer accepted at the time of issue. The resulting value at the date of issue was the current value at that time and is similar to historical cost. Also, this yield rate is objectively determined in an exchange transaction.

The continued use of the issue-date yield rate results in a failure to reflect whether the burden is too high or too low in terms of the changes that may have taken place in the interest rate.

(d) Using a current yield rate produces a current value, that is, the amount that could currently be invested to produce the desired payments. When the current yield rate is lower than the rate at the issue date (or than at the previous valuation date) the liabilities for principal and interest would increase. When the current yield is higher than the rate at the issue date (or at the previous valuation date) the liabilities would decrease. Thus, holding gains and losses could be determined. If the debt is held until maturity, the total of the interest expense and the holding gains and losses under this method would equal the total interest expense using the yield rate at issue date.

WA 14-3

(a) Machine purchased as an instalment sale. In this case, this is a debt instrument exchanged for the machine. The fair value of the debt must be determined discounting the cash flows required on the debt at the appropriate rate to reflect the credit risk of Thompson. Because this is a private company, with no credit rating, we would not be able to observe market risk assessment rates for this company. We have used unobservable data that is particular to this company only, which would be level 3 in the fair value hierarchy. We are told that the company could have borrowed funds at 7% from the bank for this same purchase. If we use 7.0% rate to discount the cash flows on the debt, the present value can be determined as follows:

Payment Jan 1, 2014	$ 240,000
Present value of 4 annual payments of $240,000	
at 7% $240,000 X 3.3872	812,928
Total	$1,052,928

This fair value determination would be a “soft” value since the 7% interest rate is a proposed (versus actual) lending rate.
However, we are also told that the fair value of the machine is only $1,050,000. This is an observable market value for similar assets. As such, this input is a level 2 fair value hierarchy. And again, this fair value would be considered a “soft” value.

The question becomes, what fair value should be used – the fair value of what is given up (the debt) or the fair value of what has been received (the machine). ASPE and IFRS recommend that the fair value of the consideration given up should be used to determine the value of the transaction unless the fair value of the item received is more reliable and more clearly evident. In this case, both of the fair values, as discussed above are both estimates, and one is not more reliable than the other.

WA 14-3 (Continued)

(a)(Continued)

As such, the value of the debt which has been given up is determined to be reliably determinable and is used to value the transaction. The treatment under ASPE and IFRS would be the same.

January 1, 2014 - Record purchase of the machine as follows:

Machinery	1,052,928	
Cash		240,000
Notes Payable		812,928

December 31, 2014
Record the depreciation on the machine assuming 10 years useful life

Depreciation Expense ($1,052,928 / 10)	105,293	
Accumulated Depreciation – Machinery		105,293

December 31, 2014
Record accrued interest for 2014 using 7%

Interest Expense (7% X $812,928)	56,905	
Interest Payable		56,905

WA 14-3 (Continued)

(a)(Continued)

Government loan – The government loan has been given at an interest rate substantially below market. The company would normally have had to pay 6% given its credit risk, but the government is charging 1%. To record the loan, we must determine the loan discounted at 6% and compare to the loan discounted at 1%.

	1%	6%	Difference
PV of 500,000 in 5 years	$475,733	$373,629	
PV of 5,000 annual payments for 5 years	24,267	21,062	
	$500,000	$394,691	$105,309

Journal entry to record the government funding December 31, 2014

Cash	500,000	
Notes Payable		394,691
Equipment		105,309

The grant of $105,309 will be amortized to net income on the same basis as the plant technology in order to offset the depreciation. Or alternatively, the grant can be directly netted against the plant technology equipment purchased and a smaller amount of depreciation will be recorded each year.

WA 14-3 (Continued)

(a)(Continued)

The note payable to the government will be amortized to interest expense over the five years, so that at the end of 5 years, the balance will be $500,000. Under IFRS, the effective interest rate of 6% will be used. Again, this rate is likely not observable in the market place since the company has no credit rating for comparison purposes. Consequently, this value is a level 3 in the fair value hierarchy.

(b) 1. Use of the asset requires a depreciation charge in each year of use. This in turn requires carrying the equipment as an asset as the risk and rewards of ownership have passed, although the company does not have legal title to the asset. The company has contracted to purchase the equipment and, thus, has a real liability which affects financial condition and must be shown. As such, the fair value of the liability that the company owes must be set up along with the fair value of the asset that has been received in return for the liability. There is an imputed interest rate built into the payments over the 5 years that must be recorded. Since the fair value of the machine is only $1,050,000, then we cannot show a higher than fair value amount. Effectively, the difference between the total payments being made and the fair value of the machine is the interest to be paid over the 5 year period.

2. The obligation of a company is to its bondholders, not to the trustee. Until the bondholders have received payment, the company still has a liability.

WA 14-3 (Continued)

(b)(Continued)

Note to instructor: The student may have difficulty with this statement because this type of situation was not discussed in the chapter. It therefore provides an opportunity to emphasize that payment to an agent or trustee does not constitute payment of the liability for bond interest. When the trustee dispenses the funds to bondholders, the liability should be reduced. A separate Bond Interest Fund account, similar to a "Sinking" fund is established at the time payment is made to the trustee. This fund is shown as a long-term investment in the asset section of the statement of financial position

3. Repurchased bonds are not an asset. A company cannot owe or own itself. Thus, these bonds are different from investments in bonds of other companies. Repurchased bonds should be reported as a deduction from bonds payable.

4. There are two points here. First of all, we obtained very favourable financing from the government, since we only must pay 1% on the loan and not 6% that we would have paid on borrowed funds. Consequently, this concession must be given separate treatment in our books. It is as though the government is forgiving 5% interest each year. The loan is recorded as though it was charging 6%, and therefore the payments we will make of $5,000 each year for the next 5 years and then the $500,000 repayment are part principal and part interest payments. An amount of $105,309 will be charged as interest over the 5 year period.

WA 14-3 (Continued)

(c) (Continued)

The second point is what to do about this concession. The benefit of this will be treated as a government grant (i.e., forgiven amount of interest). As a grant, the amount is recorded either in a separate account or as a reduction against the equipment purchased. In either case, the "grant" is amortized into income over the life of the asset. Consequently, we will also have a lower depreciation charged to net income as a result. Over the five year, this reduction in the depreciation will be offset by the additional interest expense charged on the loan.

WA 14-4

Part I

(a) The effective interest method of amortization of bond discount or premium applies a constant interest rate to the carrying value of debt. The straight-line method applies a constant dollar amount over the life of the debt resulting in a changing effective interest rate incurred that is based on the carrying value of the debt. Either method, however, computes the total premium or discount to be amortized as the difference between the par value of the debt and the proceeds from the issuance.

(b) Before the effective interest method can be used, the effective yield or interest rate of the bond must be computed. The effective yield rate is the interest rate that will discount the debt instrument to the amount received at issuance. The two components in the value of a bond are the present value of the principal amount due at the end of the bond term and the present value of the annuity represented by the periodic interest payments during the life of the bond. Interest expense using the effective interest method is based upon the effective yield or interest rate multiplied by the carrying value of the bond (par value adjusted for unamortized premium or discount). The amount of amortization is the difference between recognized interest expense and the interest actually paid (par value multiplied by nominal rate). When a premium is being amortized, the dollar amount of the periodic amortization will increase over the life of the instrument. This is due to the decreasing carrying value of the bond instrument multiplied by the constant effective interest rate, which is subtracted from the amount of cash interest paid. In the case of a discount, the dollar amount of the periodic amortization will increase over the life of the bond.

WA 14-4 (Continued)

Part I (Continued)

(b) (Continued)

This is due to the increasing carrying value of the bond instrument multiplied by the constant effective interest rate from which is subtracted the amount of cash interest paid.

The varying amounts of interest occur because of the changing carrying value of the bond over the life of the instrument. In contrast, the straight-line method yields a constant dollar amount of interest based upon the life of the instrument regardless of effective yield rates demanded in the marketplace.

Part II

(a) 1. **Gain or loss to be amortized over the remaining life of old debt.** The basic argument supporting this method is that if refunding is done to obtain debt at a lower cash outlay (interest cost), then the gain or loss is truly a cost of obtaining the reduction in cash outlay. As such, the new rate of interest alone does not reflect the cost of the new debt, but a portion of the gain or loss on the extinguishment of the old instrument must be matched with the nominal interest to reflect the true cost of obtaining the new debt instrument. This argument states that this matching must continue for the unexpired life of the old debt in order to reflect the true nature of the transaction and cost of obtaining the new debt instrument.

WA 14-4 (Continued)

Part II (Continued)

(a) (Continued)

2. **Gain or loss to be amortized over the life of the new debt instrument.** This argument states that the gain or loss from early extinguishment of debt actually affects the cost of obtaining a new debt instrument. However, this method asserts that the effect should be matched with the interest expense of the new debt for the entire life of the new debt instrument. This argument is based on the assumption that the debt was refunded to take advantage of new lower interest rates or to avoid projected high interest rates in the future, and that any gain or loss on early extinguishment should be reflected as an element of this decision and total interest cost over the life of the new instrument should be stated to reflect this decision.

3. **Gain or loss recognized in the period of extinguishment.** Proponents of this method state that the early extinguishment of debt to be refunded actually does not differ from other types of extinguishment of debt where the consensus is that any gain or loss from the transaction should be recognized in full, in current net earnings. The early extinguishment of the debt is prompted for the same reason that other debt instruments are extinguished; namely, that the value of the debt instrument has changed in light of current financial circumstances and early extinguishment of the debt would produce the most favourable results. Also, it is argued that any gain or loss on the extinguishment is directly related to market interest fluctuations related to prior periods.

WA 14-4 (Continued)

Part II (Continued)

(a) (Continued)

3. (Continued)

If the true market interest rate had been known at the time of issuance, there would be no gain or loss at the time of extinguishment. Also, even if market interest rates were not known but the carrying value of the bond was periodically adjusted to market, any gain or loss would be reflected at the interim dates and not in a future period.

The call premium paid on extinguishment and any unamortized premium or discounts are actually adjustments to the actual effective interest rate over the outstanding life of the bond. As such, any gain or loss on the early extinguishment of debt is related to prior-period valuation differences and should be recognized immediately.

(b) The immediate recognition principle is the only acceptable method of reflecting gains or losses on the early extinguishment of debt, and that these amounts, if material, must be reflected as unusual items outside of operations with other revenues and gains or other expenses and losses.

WA 14-5

Generally, ASPE has been designed to reduce complexity in the recognition and measurement of items, to reduce disclosure requirements and to make the information useful for the main user, who has been defined as creditors. Given this, we will see the impact of this in the discussion below of the differences between ASPE and IFRS.

There are few differences between IFRS and ASPE in this chapter.

a. Generally, liabilities (primarily debt in this chapter) are measured at amortized cost using the effective interest rate method under IFRS. ASPE allows either the effective interest rate method, or alternatives, which would normally be in practice, the straight-line method. The reason for this difference relates to complexity. The effective rate of interest is more complicated and costly to implement. At each reporting period, the effective interest rate will be applied on the current balance of outstanding debt. This complicates the measurement and recording of interest expense and the related debt on the statement of financial position. The straight-line method is much easier (and less costly to implement) as the total amount of premium/discount to be recognized over the period is simply divided by the term of the debt. This gives the amount of interest to be recognized each period.

WA 14-5 (Continued)

b. Under ASPE, long term debt that is being refinanced can be shown as long term at the reporting date provided that the agreement with the creditor is in place prior to the release of the financial statements. This differs with IFRS, which would require the agreement to be in place prior to the year end report date. The main reason for this difference is to continue with normal Canadian practice that has been in place for many years prior to adoption of IFRS. It also means that there is some time prior to issue to get the financing documents in order to properly show the current versus non-current classification.

c. With respect to capital disclosures – IFRS requires detailed capital disclosure notes which include information on:
   - Company's objectives, policies and processes to manage its capital (being cash, debt and equity)
   - What specifically is included in the company's definition of capital
   - Whether or not there are externally imposed restrictions on this capital, and if so, if the company is in compliance with these.

Under ASPE, the only disclosure required is whether or not the company is in compliance with covenants on the debt.
The main reason for these differences is that private companies tend to not have very complex capital arrangements. Generally, there might be debt that is outstanding to the bank, and small amounts of equity issued to the manager-shareholders of the company. As the creditors are the primary users of the financial statements, they would already be familiar with restrictions put on the statement of financial position of the company. Given these facts, it was thought to be too costly for private enterprises to prepare and disclose this data and that the costs would not justify the benefits.

WA 14-6

(a) The "non-performance risk" refers to the risk that the obligation will not be settled. Credit risk related to the obligor is a component of non-performance risk. The credit risk may differ depending on the obligation being fulfilled – i.e. is settlement to be in cash or in goods and services or are there any terms of credit enhancements related to the liabilities?

(b) Below are the arguments for incorporating credit risk into the measurement of a liability:

1. Consistency of initial recognition - Since credit risk is incorporated into the effective interest rate used to measure the bonds payable at initial recognition, in order to be consistent, this same basis should be used at each reporting period. Additionally, to be consistent, all liabilities, regardless of their nature should incorporate credit risk in the assessment of the appropriate discount rate to be used. Currently, the discount rates used for valuing other liabilities such as warranties, pension obligations and asset retirement obligations are all different.

2. Wealth transfer – A second argument is that as the credit risk of the entity deteriorates, there is a transfer of wealth from the bondholders (debt is declining) to the shareholders. Even though this might reverse over time as the liability to the bondholders is settled, proponents of this explanation argue that all changes in relative claims should be reflected on the statement of financial position, not just some.

WA 14-6 (Continued)

3. Accounting mismatch – The final argument is that when credit risk is not incorporated into the value of liabilities, there is a mismatch between asset and liability measurements. The assets measured at fair value are impacted by credit risk assessments related to the assets. However, if the liabilities do not incorporate for credit risk changes, then there is a mismatch and comprehensive income becomes distorted.

Arguments to support that credit risk should not be incorporated into the liability measurement are as follows:

1. Counter-intuitive results – An increase in the credit risk of an entity, will result in the decrease in the value of the liability, which will result in a gain. This is not intuitively appealing, since normally we would expect gains to be realized on improvements in the entity's financial position, not with deterioration. This would result in misleading and distorted profits.

2. Accounting mismatch – This argument considers the fact that including the credit risk changes also leads to accounting mismatches since not all assets are being valued at fair market values. A decline in the entity's credit quality might indicate that some of the capital and intangible assets and goodwill have also declined in value. However, as these assets are not reported at fair market values, these declines would not be recorded. So we have a decline in liabilities, with no decline in assets as a result of the same external condition.

WA 14-6 (Continued)

3. Realization – The final argument against changing the discount rate for changes in credit quality is that realization is not critical in accounting for some asset values. Whereas assets are sold all the time, liabilities are rarely sold since often it is not practicable, or it requires the counter party's permission. Consequently if the entity cannot benefit from realization of the liability, why should the liability be measured at current values? Some liabilities must be measured using current information, but credit risk need not be incorporated into this value since shareholders may not gain or lose from this change.

(c) Finally, the alternatives being discussed to determine the appropriate measure of liabilities are:

1. Use the risk-free rate of interest, excluding any default risk and report any impact of changes immediately to profit or loss in the period they arise.

2. Use the risk-free rate of interest, excluding any default risk, and report any impact of changes to equity and amortize over the life of the liability.

3. Measure liabilities that relate to an exchange of cash at the amount of the cash proceeds (as is currently done using the current market rate of return). Liabilities that are not an exchange of cash should be measured at their present value of future cash flows using a current discount rate that excludes credit risk changes.

RESEARCH AND FINANCIAL ANALYSIS

RA14-1

Debt to total assets ratio = (Total debt) / (Total assets)

Times interest earned = (Income before income taxes & interest expense) / (Interest expense)

January 1, 2011:

Debt to total assets ratio = ($2,941,562) / ($7,044,197) = 41.76%

Times interest earned = ($897,322) / ($65,629) = 13.67

December 31, 2011:

Debt to total assets ratio = ($3,032,480) / ($7,300,310) = 41.54%

Times interest earned = ($910,905) / ($67,094) = 13.58

During 2011 SDMs solvency improved slightly as its ratio of debt to total assets decreased. Times interest earned decreased slightly during 2011 indicating an modest deterioration in SDM's ability to repay its interest liabilities.

RA14-2 LOBLAW VERSUS EMPIRE

(a) The following are the debt to total assets and times interest earned ratios for the companies:

millions	Loblaw December 3, 2011	Empire May 7, 2011
Total liabilities	$11,421	$3,306.4
Total assets	17,428	6,555.4
Debt to asset ratio	0.66	0.50
Earnings before interest and taxes	1,384	497.4
Interest expense	327	71.3
Times interest earned	4.23	6.98

From the above analysis, it appears that Loblaw has slightly more debt than Empire in its capital structure. This results in its times interest earned ratio also being less than Empire. However, Empire has significant operating leases that would also need to be considered in preparing a full analysis. In this case, many of Empire's assets and obligations are off the statement of financial position as a result of using operating leases. (See discussion below in part (c).)

(b) The following ratios are highlighted in the Management Discussion and Analysis for reach company:

	Loblaw	Empire
Funded debt to capital ratio		26.4%
Net funded debt to capital ratio		14.5%
Funded debt to EBITDA		1.4X
EBITDA to interest		12.1X
Interest coverage	4.2:1	
Net debt to equity	0.8:1	

RA14-2 (Continued)

As can be seen from the above table, both companies use different ratios to measure their debt levels. Since these are non-GAAP measures, there is some detail provided as to how these ratios have been calculated. However, an analyst would likely calculate their own ratios so that the two companies could be compared employing the same ratios.

(c) Reviewing the long term debt (note 11) of Empire, the company has medium term notes coming due between 2018 to 2040, debentures coming due between 2011 and 2016, credit facilities due in 2012 and 2013 and some capital lease obligations due 2011-2040. Empire had a credit rating of positive trend, which by the end of the year had been upgraded to stable. The primary reason driving this change was that the company had improved EBITDA and also reduced interest expense, thereby improving its EBITDA to interest ratio.

Loblaw, in note 17, outlines that its debt is primarily made up of notes payables which mature on various dates from 2013 to 2043. It also has some private placement US$ debt maturing in 2013 and 2015. Finally, it has mortgage secured debt, GICs and independent securitization trusts. On Page 14 of the Annual Report, Loblaw outlines its credit ratings from DBR and S&P. During 2011, the company's credit ratings and were reaffirmed as stable.

Both companies have BBB ratings with a stable trend.

RA14-2 (Continued)

The companies have similar debt ratings even though Loblaw is seen to have more debt on its statement of financial position than Empire. We would have anticipated that Loblaw would have the worse credit rating since it has more debt than Empire. The fact that Empire and Loblaw have the same credit rating is likely due to the amount of leases that Empire (annual obligation of $377.4 million and $3,580.4 million in total) has in comparison to Loblaw ($219 million annually and $1,508 million in total). These lease obligations require cash flow from Empire that is in addition to its debt obligations. Credit analysts would consider all obligations both on and off the statement of financial position in order to assess financial risk.

(d) Note 15 outlines Empire's capital disclosures. The company's objectives in managing its capital are: to ensure ongoing liquidity, minimize its cost of capital, maintain an optimal capital structure to ensure financial flexibility and to maintain an investment grade credit rating. Total capital for the company includes all interest bearing debt (funded debt) net of cash and cash equivalents, and equity. The total capital being managed is $3,798 million. The key ratios being monitored are: funded debt to capital; funded debt to EBITDA and EBITDA to interest. Empire had two covenants to maintain for which they were in compliance: (1) Adjusted total debt to EBITDA and (2) debt service coverage ratio.

In Note 20, Loblaw outlines its capital disclosure. It has 4 objectives in managing its capital: to ensure sufficient liquidity to pay its obligations, to maintain financial capacity and the ability to access capital as needs arise; to minimize its cost of capital; and to utilize short term funding to manage working capital and long term funding to finance long term assets.

RA14-2 (Continued)

The company has three key ratios it monitors: interest coverage, net debt to equity and net debt to EBITDA ratios.The total net debt being managed is $2,513 million (no equity is included in this total). The company has two covenants that must be maintained: an interest coverage ratio and a leverage ratio. It also has certain capital requirements to be met as a result of its banking services which are imposed by OSFI– a regulatory body (Office of the Superintendant of Financial Institutions).

(c) Empire has two types of variable interest entities that are disclosed in Note 29. The company has 288 franchise affiliates where the agreements deem Empire controls the entities. As a result, all of these entities are consolidated in Empire's consolidated financial statements. The second entity involves a Warehouse and Distribution agreement with an independent entity. This agreement also qualifies to be consolidated in the statements for Empire, as Empire controls the entity.

(d)

In note 27, Loblaw explains it's VIE's. The company has a variety of franchise agreements involving sale of goods and services and financing and leasing arrangements. There were 214 of the company's independent franchise stores that meet the requirements to be consolidated as a VIE because Loblaw controls them. The company also has a variety of warehouse and distribution agreements with third party providers. Due to the nature of these agreements, these entities have been consolidated and included in Loblaw's financial statements because control exists.

RA14-3 DBRS

a) Dominion Bond Rating Service Limited (DBRS) uses the following approach in rating food retailer companies:

1. General business risk profile includes analysis of:
    a) Economic environment
    b) Legislative and regulatory environment
    c) Competitive environment
    d) Country risk
    e) Industry cyclicality
    f) Management, and
    g) Corporate governance.

2. General financial risk factors include:

(a) Earnings: gross margins, return on common equity, return on capital and EBIT margin and EBITDA margin.

(b) Cash flow/Coverage: EBIT interest coverage and EBITDA interest coverage; EBIT fixed charges coverage; cash flow/total debt and cash flow/adjusted total debt; cash flow/capital expenditures; capital expenditures /depreciation; debt/EBITDA and dividend payout ratio.

(c) Statement of financial position and financial flexibility considerations: current ratio; receivables turnover; inventory turnover; asset coverage; Total debt to capital; adjusted total debt to capital; net debt to capital.

RA14-3 (Continued)

3. Industry specific factors that are considered include:
(a) brand name – same store sales growth is an indicator of brand strength
(b) formats and banners
(c) operational efficiency
(d) relative size
(e) private label brands
(f) diversification
(g) understanding /adapting to consumer trends
(h) real estate – owned versus leased
(i) locations
(j) labour

(b) Loblaw has been given a rating of BBB on its medium term notes and debentures, and a rating of Pfd-3 middle for its commercial paper. All trends on its debt are stable.
Empire's debt ratings have been discontinued; however Sobey's senior unsecured debt is still rated as BBB with a stable outlook. This is similar to Loblaw.

(c) These ratings for Loblaw and Empire are similar. This is likely due to the fact that both Loblaw and Sobeys are in the same industry and therefore face similar business risks.

(d) It is possible to have different ratings on different debt instruments within the same company, as is illustrated by the different ratings assigned by DBRS to the various instruments for Loblaw as discussed in part (b). This is due to the nature of the debt (long term versus short term) and whether or not the debt is secured or unsecured. Since different ratings firms use different scales, it is also possible for there to be differences between the ratings of various instruments for a particular company assigned by different rating firms.

RA14-4 AIR CANADA

(a) The debt to equity ratio for Air Canada is 3.34. This ratio indicates that Air Canada is highly leveraged. The deficit balance of equity indicates a weak equity position, the company operations are being funded with debt.

(b) DBRS rated Air Canada at a "B" rating with a stable trend.

(c) Variable interest entities: Note 25(i) discusses the impact of the transition to IFRS on accounting for VIEs. Under Canadian GAAP consolidation was based on the primary beneficiary for VIEs and on the continuing power to govern operating and financial policies for non-VIEs. Consolidation of non-VIEs would further consider whether the benefits and risks from the entities activities would flow to the potential parent company.
Under IFRS the control model is used to determine whether an entity should be consolidated. The control model assesses the power to govern policies, both financial and operational.
Similar to Canadian GAAP, access to benefits from the actions of a consolidated subsidiary is considered in the determination of whether consolidation should occur.

Non-controlling interest is measured at historical cost of net assets held by non-controlling shareholders and presented separately from liabilities and equity on the statement of financial position under Canadian GAAP. For IFRS, non-controlling interest is measured either at fair value or as the proportionate share of net identifiable assets of the non-controlling interest. Presentation under IFRS shows non-controlling interest as a component of equity.

RA14-4 (Continued)

The impact on accounting for VIEs as it relates to Air Canada is as follows. Special purposes entities (SPEs) are consolidated under IFRS that were not consolidated under Canadian GAAP. The impact of the consolidated SPEs include an increase in long-term debt, and a decrease to non-controlling interest. Non-controlling interest is reclassified to equity. Share of net income relating to non-controlling interests is reclassified to Income attributable to non-controlling interests.

Long-term debt instruments: Differences between Canadian GAAP and IFRS accounting for long-term debt relate to presentation for Air Canada. Refinancing obtained through a secured term loan facility can be reclassified to long-term debt under Canadian GAAP, including the amounts due within 12 months. Under IFRS, these amounts due within one year must be included in the current portion of long-term debt.

CUMULATIVE COVERAGE (Chapters 13-14)

Part a:

		DR	CR
1	Salaries and Wages Expense	460,000	
	Employee Income Tax Deductions Payable		110,000
	EI Premiums Payable (1.98% x $460,000)		9,108
	CPP Contributions Payable (4.95% x $460,000)		22,770
	Salaries and Wages Payable		318,122
	(employee wages and employee deductions)		
	Payroll Tax Expense	35,521	
	EI Premiums Payable ($9,108 x 1.4)		12,751
	CPP Contributions Payable		22,770
	(employer portions of payroll taxes (i.e. an expense to the company)		
Record wages payable at June 30.			
2	Salaries and Wages Expense	26,000	
	Vacation Wages Payable		26,000
Vacation pay accrual = (70 x $40,000 x 4% ÷ 12) + (20 x $125,000 x 8% ÷ 12)			
3	Somewhat possible does not mean that it is likely there is a liability. In order to accrue a contingent liability, the company must think it is likely that the liability will become payable. Disclosure that the company has been sued and may face a possible loss is necessary, although the practice is generally to provide scant details. It would conclude with a note “in the opinion of legal counsel”, and contain a statement agreed with legal counsel (as there is a joint agreement between the CICA and the CBA governing such communications).		
4	The amount that the company may collect as a result of this legal action represents a contingent receivable and corresponding gain. Contingent assets do not meet the definition of an asset, and they should not be recorded. As this item has likely been reported in the media, note disclosure may help to provide clarification but must be very cautious in tone and content. See above.		
5	Equipment	90,000	
	Due to Shareholder		30,000
	Notes Payable		60,000
	Interest Expense (60,000 X 8% X 5/12)	2,000	
	Interest Payable		2,000
Record purchase of equipment and interest payable on note. Insufficient information is provided about the useful life, residual value and depreciation policy of the company to prepare the necessary depreciation expense entry for the five months ended June 30, 2014.			

CUMULATIVE COVERAGE (Chapters 13-14) (Continued)

6	Cash	4,383,800	
	Bonds Payable		4,383,800
Bond issue price = $4,200,000 x .78120 + ($4,200,000 x 3%) x 8.75206 = $4,383,800			
	Interest Expense ($4,383,800 X 5% X 5/12)	91,329	
	Bonds Payable	13,671	
	Interest Payable ($4,200,000 X 6% X 5/12)		105,000
Record interest payable on bond at year end.			
Interest may also be calculated in this manner: Interest payment due August 1 = $126,000, multiply by 5/6 to recognize partial period = $105,000 Interest expense at August 1 = $4,383,800 x 2.5% = $109,595, multiply by 5/6 = $91,329 Premium amortization to June 30 = $105,000 - $91,329 = $13,671			
7	Rent Expense	2,730	
	Rent Payable		2,730
additional rent payable based on excess sales over lease threshold = ($1,523,000 - $1,250,000) x 1% = $2,730			
8	Premium Expense	24,000	
	Premium Liability		6,000
	Inventory of Premiums		18,000
Estimated unredeemed coupons: Coupons issued = 100,000 Redemption rate = 60% Total coupons that are expected to be redeemed = 60% x 100,000 = 60,000 Total promotion expense = (60,000 coupons ÷ 3 coupons) x $1.20 per container = $24,000 Less: coupons redeemed during the year = 45,000 (this solution assumes the redemption has not been recorded, and removes the spice containers, given in exchange for coupons, from inventory) Therefore, an estimated 15,000 coupons may be retired in the future. 15,000 coupons can be redeemed for spice containers, 3 are required per spice container, so up to 5,000 spice containers may be given away. They cost $1.20, so total liability is 1.20 x 5,000 = $6,000.			

CUMULATIVE COVERAGE (Chapters 13-14) (Continued)

Part b:
Amortization table for bond to August 1, 2015:

	Cash – CR	Interest Expense (2.5%) DR	Premium Amortization DR	Bond Carrying Amount
February 1, 2014				$4,383,800
August 1, 2014	$126,000	$109,595	$16,405	4,367,395
February 1, 2015	126,000	109,185	16,815	4,350,580
August 1, 2015	126,000	108,765	17,235	4,333,345
February 1, 2016	126,000	108,334	17,666	4,315,679

Early redemption occurs August 31, 2015, for 40% of the bonds at 1.03

Carrying amount August 1, 2015 for 40%	40% x $4,333,345	$1,733,338
Amortization of premium to August 31	$17,666 x 40% ÷ 6 months	1,178
Carrying amount of bond August 31, 2015		1,732,160
Price paid to redeem early	$4,200,000 x 40% x 1.03	1,730,400
Gain on early redemption		$1,760

Cash for interest due $126,000*.4*1/6 = $8,400

Entry to record early redemption:

	DR	CR
Interest Expense ($4,333,345 X 5% X 1/12 X 40%)	7,222	
Bonds Payable	1,178	
Cash		8,400
Bonds Payable	1,732,160	
Cash		1,730,400
Gain on Redemption of Bonds		1,760