Liabilities and Equity Exercises II

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Problem 1

On October 1, 20X4, River Woods purchased land by giving $200,000 in cash and executing a $800,000 note payable to the former owner. The note bears interest at 8% per annum, with interest being payable annually on September 30 of each year. Rojas is also required to make a $200,000 payment toward the note's principal on every September 30.

a) Prepare the appropriate journal entry to record the land purchase on October 1, 20X4.

b) Prepare the appropriate journal entry to record the year-end interest accrual on December 31, 20X4.

c) Prepare the appropriate journal entry to record the payment of interest and principal on September 30, 20X5.

d) Prepare the appropriate journal entry to record the year-end interest accrual on December 31, 20X5.

e) Prepare the appropriate journal entry to record the payment of interest on September 30, 20X6.

Worksheet 1

(a), (b), (c), (d), (e)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Oct			
31-Dec			
30-Sep			
31-Dec			
30-Sep			

Solution 1

(a), (b), (c), (d), (e)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Oct	Land	1,000,000	
	Cash		200,000
	Note Payable		800,000
	To record purchase of land for cash and 8% note payable		
31-Dec	Interest Expense	16,000	
	Interest Payable		16,000
	To record accrued interest for 3 months ($800,000 X 8% X 3/12)		
30-Sep	Interest Expense	48,000	
	Interest payable	16,000	
	Note Payable	200,000	
	Cash		264,000
	To record repayment of note and interest ($800,000 X 8% X 9/12)		
31-Dec	Interest Expense	12,000	
	Interest Payable		12,000
	To record accrued interest for 3 months ($600,000 X 8% X 3/12)		
30-Sep	Interest Expense	36,000	
	Interest payable	12,000	
	Note Payable	200,000	
	Cash		248,000
	To record repayment of note and interest ($600,000 X 8% X 9/12)		

Problem 2

On January 1, 20X5, Diego Garcia borrowed $300,000 to purchase a new office building. The loan is to be repaid in 2 equal annual payments, beginning December 31, 20X5. The annual interest rate on the loan is 6%.

a) Calculate the annual payment on the loan.

b) Prepare the appropriate journal entries to record the loan and subsequent payments at the end of 20X5 and 20X6.

c) If the loan was to be repaid in 24 equal monthly payments (0.5% interest rate per month), how much would the monthly payment equal?

Worksheet 2

a)

Loan Amount = Payments X Annuity Present Value Factor

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan	Building	300,000.00	
	Note Payable		300,000.00
	To record purchase of office building for 6% note payable		
31-Dec	Interest Expense		
	Note Payable		
	Cash		
	To record payment		
31-Dec	Interest Expense		
	Note Payable		
	Cash		
	To record payment		

c)

Loan Amount = Payments X Annuity Present Value Factor

Solution 2

a)

Loan Amount = Payments X Annuity Present Value Factor

$300,000 = Payments X Annuity Present Value Factor (2 periods @ 6%)

$300,000 = Payments X 1.83339

$300,000/1.83339 = Payments

Payments = $163,631.31

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan	Building	300,000.00	
	Note Payable		300,000.00
	To record purchase of office building for 9% note payable		
31-Dec	Interest Expense	18,000.00	
	Note Payable	145,631.31	
	Cash		163,631.31
	To record payment ($300,000 X 6% = $18,000)		
31-Dec	Interest Expense	9,262.61	
	Note Payable	154,368.69	
	Cash		163,631.31
	To record payment (($300,000 - $154,368.69) X 6% ≈ $9,262.61)		

c)

Loan Amount = Payments X Annuity Present Value Factor

$300,000 = Payments X Annuity Present Value Factor (24 periods @ 0.50%)

$300,000 = Payments X 22.56287

$300,000/22.56287 = Payments

Payments = $13,296.18

Problem 3

Euro Air company issued $500,000 of 5-year bonds. The bonds were issued at par on January 1, 20X1, and bear interest at a rate of 5% per annum, payable semiannually.

a) Prepare the journal entry to record the bond issue on January, 20X1.

b) Prepare the journal entry that Euro Air would record on each interest date.

c) Prepare the journal entry that Euro Air would record at maturity of the bonds.

d) How much cash flowed "in" and "out" on this bond issued, and how does the difference compare to total interest expense that was recognized?

Worksheet 3

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue			
Interest			
Maturity			

d)

Solution 3

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue	Cash	500,000	
	Bonds Payable		500,000
	To record the issuance of $500,000, 5%, 5-year bonds at par -- interest payable semiannually		
Interest	Interest Expense	12,500	
	Cash		12,500
	To record the payment of an interest payment ($500,000 par X .05 interest X 6/12 months)		
Maturity	Bonds Payable	500,000	
	Cash		500,000
	To record the redemption of bond investment at maturity		

d) Total cash inflow was $500,000, and total cash outflow was $625,000 (($12,500 X 10 periods) + $500,000). The $125,000 difference is equivalent to the interest expense that would be recognized over time ($12,500 X 10 periods).

Problem 4

Newton Fish Company issued $500,000 of face amount of 5-year bonds on January 1, 20X1. The bonds were issed at 102, and bear interest at a stated rate of 6% per annum, payable semiannually. The premium is amortized by the straight-line method.

a) Prepare the journal entry to record the initial issue on January, 20X1.

b) Prepare the journal entry that Newton would record on each interest date.

c) Prepare the journal entry that Newton would record at maturity of the bonds.

d) How much cash flowed "in" and "out" on this bond issue, and how does the difference compare to total interest expense that was recognized?

Worksheet 4

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue			
Interest			
Maturity			

d)

Solution 4

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue	Cash	510,000	
	Premium on Bonds Payable		10,000
	Bonds Payable		500,000
	To record the issuance of $500,000, 6%, 5-year bonds at 102 -- interest semiannually		
Interest	Interest Expense	14,000	
	Premium on Bonds Payable	1,000	
	Cash		15,000
	To record payment of an interest payment ($500,000 par X .06 interest X 6/12 months = $15,000; $10,000 premium X 6 months/60 months = $1,000 amortization)		
Maturity	Bonds Payable	500,000	
	Cash		500,000
	To record the redemption of bond issue at maturity		

d) Total cash inflow was $510,000, and total cash outflow was $650,000 (($15,000 X 10 periods) + $500,000). The $150,000 difference is equivalent to the interest expense that would be recognized over time ($15,000 X 10 periods).

Problem 5

Swan Industrial Supply Company issued $500,000 of face amount of 6-year bonds on January 1, 20X1. The bonds were issued at 97, and bear interest at a stated rate of 10% per annum, payable semiannually. The discount is amortized by the straight-line method.

a) Prepare the journal entry to record the initial issuance on January, 20X1.

b) Prepare the journal entry that Swan would record on each interest date.

c) Prepare the journal entry that Swan would record at maturity of the bonds.

d) How much cash flowed "in" and "out" on this bond issue, and how does the difference compare to total interest expense that was recognized?

Worksheet 5

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue			
Interest			
Maturity			

d)

Solution 5

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
Issue	Cash	485,000	
	Discount on Bonds Payable	15,000	
	Bonds Payable		500,000
	To record the issuance of $100,000, 10%, 6-year bonds at 97 - interest semiannually		
Interest	Interest Expense	26,250	
	Discount on Bonds Payable		1,250
	Cash		25,000
	To record payment of an interest payment ($500,000 par X .10 interest X 6/12 months = $25,000; $15,000 discount X 6 months/72 months = $1,250 amortization)		
Maturity	Bonds Payable	500,000	
	Cash		500,000
	To record the redemption of bond issue at maturity		

d) Total cash inflow was $485,000, and total cash outflow was $800,000 (($25,000 X 12 periods) + $500,000). The $300,000 difference is equivalent to the interest expense that would be recognized over time ($15,000 X 12 periods).

Problem 6

Danish Bakery issued $1,000,000, face amount, of 8% bonds on January 1, 20X3. The bonds are 10-year bonds, and Interest is payable every 6 months. At the time of issue, the market rate of interest was only 6%, so the bonds were issued at a premium.

a) Prepare calculations showing that issue price was approximately $1,148,779.

b) Use the effective-interest method of amortization, and prepare the journal entries that Danish Bakery would record on January 1, 20X3, June 30, 20X3, and December 31, 20X3.

c) Show how the bonds would appear on Danish Bakery's December 31, 20X3 balance sheet.

Worksheet 6

a)

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan			
30-Jun			
31-Dec			

c)

Bonds Payable

Plus: Premium on bonds payable

Solution 6

a)

Periodic interest payments ($1,000,000 X 4%)		$ 40,000		
Present value factor (20 period annuity, 3%)	X	14.8775	$	595,099
Maturity value		$ 1,000,000		
Present value factor (20 periods, 3%)	X	0.5537	$	553,680
Issue price of bond			$	1,148,779

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan	Cash	1,148,779	
	Premium on Bonds Payable		148,779
	Bonds Payable		1,000,000
	To record the issuance of $1,000,000, 8%, 5-year bonds at $1,148,779		
30-Jun	Interest Expense	34,463	
	Premium on Bonds Payable	5,537	
	Cash		40,000
	To record payment of interest ($1,000,000 X .04 = $40,000; $1,148,779 X .03 = $34,463)		
31-Dec	Interest Expense	34,297	
	Premium on Bonds Payable	5,703	
	Cash		40,000
	To record payment of interest ($1,000,000 X .04 = $175,000; ($1,148,779 - $5,537) X .03 = $34,297)		

c)

Bonds Payable		$ 1,000,000		
Plus: Premium on bonds payable		137,540	$	1,137,540

Problem 7

Danish Bakery issued $1,000,000, face amount, of 6% bonds on January 1, 20X3. The bonds are 10-year bonds, and Interest is payable every 6 months. At the time of issue, the market rate of interest was 8%, so the bonds were issued at a discount.

a) Prepare calculations showing that issue price was approximately $4,786,725.

b) Use the effective-interest method of amortization, and prepare the journal entries that Danish Bakery would record on January 1, 20X3, June 30, 20X3, and December 31, 20X3.

c) Show how the bonds would appear on Danish Bakery's December 31, 20X3 balance sheet.

Worksheet 7

a)

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan			
30-Jun			
31-Dec			

c)

Bonds Payable

Plus: Premium on bonds payable

Solution 7

a)

Periodic interest payments ($1,000,000 X 3%)		$	30,000	
Present value factor (20 period annuity, 4%)	X		14,8775	$ 446,324
Maturity value		$	1,000,000	
Present value factor (20 periods, 4%)	X		0.4564	$ 456,390
Issue price of bond				$ 902,714

b)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Jan	Cash	902,714	
	Discount on Bonds Payable	97,286	
	Bonds Payable		1,000,000
	To record the issuance of $1,000,000, 5%, 10-year bonds at $902,714		
30-Jun	Interest Expense	36,109	
	Discount on Bonds Payable		6,109
	Cash		30,000
	To record payment of interest ($1,000,000 X .03 = $30,000; $902,714 X .04 = $36,109)		
31-Dec	Interest Expense	36,353	
	Discount on Bonds Payable		6,353
	Cash		30,000
	To record payment of interest ($1,000,000 X .03 = $30,000; ($902,714 + $6,109) X .04 = $36,353)		

c)

Bonds Payable		$	1,000,000	
Plus: Premium on bonds payable			84,824	$ 915,176

Problem 8

Academic Access is devoted to tracking the performance of minority students. The company issued $5,000,000 face amount of 10% bonds. The bonds were dated January 1, 20X4, and pay interest on June 30 and December 31 of each year. The initial bond offering was delayed until March 1, 20X4, and the issue price was 100 plus accrued interest.

a) Prepare the journal entry to record the bond issue on March 1, 20X4.

b) Prepare the journal entry that Academic Access would record on June 30, 20X4.

c) Prepare the journal entry that Academic Access would record on December 31, 20X4.

Worksheet 8

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Mar			
30-Jun			
31-Dec			

Solution 8

a), b), c)

GENERAL JOURNAL			
Date	**Accounts**	**Debit**	**Credit**
1-Mar	Cash	5,083,333	
	Interest Payable		83,333
	Bonds Payable		5,000,000
	To record issuance of bonds at par, plus accrued interest ($5,000,000 X 10% X 2/12 = $83,333)		
30-Jun	Interest Expense	166,667	
	Interest Payable	83,333	
	Cash		250,000
	To record the payment of interest ($5,000,000 par X 10% X 6/12 months = $250,000)		
31-Dec	Interest Expense	250,000	
	Cash		250,000
	To record the payment of interest ($5,000,000 par X 10% X 6/12 months = $250,000)		