

Liabilities and Equity Exercises II

Larry M. Walther; Christopher J. Skousen



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Larry M. Walther & Christopher J. Skousen

Liabilities and Equity Exercises II

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1st edition

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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 |
| | <i>To record purchase of land for cash and 8% note payable</i> | | |
| | | | |
| 31-Dec | Interest Expense | 16,000 | |
| | Interest Payable | | 16,000 |
| | <i>To record accrued interest for 3 months (\$800,000 X 8% X 3/12)</i> | | |
| | | | |
| 30-Sep | Interest Expense | 48,000 | |
| | Interest payable | 16,000 | |
| | Note Payable | 200,000 | |
| | Cash | | 264,000 |
| | <i>To record repayment of note and interest (\$800,000 X 8% X 9/12)</i> | | |
| | | | |
| 31-Dec | Interest Expense | 12,000 | |
| | Interest Payable | | 12,000 |
| | <i>To record accrued interest for 3 months (\$600,000 X 8% X 3/12)</i> | | |
| | | | |
| 30-Sep | Interest Expense | 36,000 | |
| | Interest payable | 12,000 | |
| | Note Payable | 200,000 | |
| | Cash | | 248,000 |
| | <i>To record repayment of note and interest (\$600,000 X 8% X 9/12)</i> | | |

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)

$$\text{Loan Amount} = \text{Payments} \times \text{Annuity Present Value Factor}$$

b)

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

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c)

$$\text{Loan Amount} = \text{Payments} \times \text{Annuity Present Value Factor}$$

Solution 2

a)

$$\text{Loan Amount} = \text{Payments} \times \text{Annuity Present Value Factor}$$

$$\$300,000 = \text{Payments} \times \text{Annuity Present Value Factor (2 periods @ 6\%)}$$

$$\$300,000 = \text{Payments} \times 1.83339$$

$$\$300,000 / 1.83339 = \text{Payments}$$

$$\text{Payments} = \$163,631.31$$

b)

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

c)

$$\text{Loan Amount} = \text{Payments} \times \text{Annuity Present Value Factor}$$

$$\$300,000 = \text{Payments} \times \text{Annuity Present Value Factor (24 periods @ 0.50\%)}$$

$$\$300,000 = \text{Payments} \times 22.56287$$

$$\$300,000/22.56287 = \text{Payments}$$

$$\text{Payments} = \$13,296.18$$

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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 |
| | <i>To record the issuance of \$500,000, 5%, 5-year bonds at par – interest payable semiannually</i> | | |
| | | | |
| Interest | Interest Expense | 12,500 | |
| | Cash | | 12,500 |
| | <i>To record the payment of an interest payment (\$500,000 par X .05 interest X 6/12 months)</i> | | |
| | | | |
| Maturity | Bonds Payable | 500,000 | |
| | Cash | | 500,000 |
| | <i>To record the redemption of bond investment at maturity</i> | | |

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

Problem 4

Newton Fish Company issued \$500,000 of face amount of 5-year bonds on January 1, 20X1. The bonds were issued 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 |
| | <i>To record the issuance of \$500,000, 6%, 5-year bonds at 102 – interest semiannually</i> | | |
| | | | |
| Interest | Interest Expense | 14,000 | |
| | Premium on Bonds Payable | 1,000 | |
| | Cash | | 15,000 |
| | <i>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)</i> | | |
| | | | |
| Maturity | Bonds Payable | 500,000 | |
| | Cash | | 500,000 |
| | <i>To record the redemption of bond issue at maturity</i> | | |

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

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.

- Prepare the journal entry to record the initial issuance on January, 20X1.
- Prepare the journal entry that Swan would record on each interest date.
- Prepare the journal entry that Swan would record at maturity of the bonds.
- How much cash flowed “in” and “out” on this bond issue, and how does the difference compare to total interest expense that was recognized?

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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 |
| | <i>To record the issuance of \$100,000, 10%, 6-year bonds at 97 – interest semiannually</i> | | |
| | | | |
| Interest | Interest Expense | 26,250 | |
| | Discount on Bonds Payable | | 1,250 |
| | Cash | | 25,000 |
| | <i>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)</i> | | |
| | | | |
| Maturity | Bonds Payable | 500,000 | |
| | Cash | | 500,000 |
| | <i>To record the redemption of bond issue at maturity</i> | | |

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

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 | <u>14.8775</u> | \$ 595,099 |
| Maturity value | \$ | 1,000,000 | |
| Present value factor (20 periods, 3%) | X | <u>0.5537</u> | \$ 553,680 |
| Issue price of bond | | | <u>\$ 1,148,779</u> |

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b)

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

c)

| | | | |
|--------------------------------|----|----------------|---------------------|
| Bonds Payable | \$ | 1,000,000 | |
| Plus: Premium on bonds payable | | <u>137,540</u> | \$ <u>1,137,540</u> |

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 | <u>14,8775</u> | \$ 446,324 |
| | | | |
| Maturity value | \$ | 1,000,000 | |
| Present value factor (20 periods, 4%) | X | <u>0.4564</u> | \$ 456,390 |
| Issue price of bond | | | <u><u>\$ 902,714</u></u> |

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b)

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

c)

| | | | |
|--------------------------------|----|---------------|-------------------|
| Bonds Payable | \$ | 1,000,000 | |
| Plus: Premium on bonds payable | | <u>84,824</u> | \$ <u>915,176</u> |

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 |
| | <i>To record issuance of bonds at par, plus accrued interest (\$5,000,000 X 10% X 2/12 = \$83,333)</i> | | |
| | | | |
| 30-Jun | Interest Expense | 166,667 | |
| | Interest Payable | 83,333 | |
| | Cash | | 250,000 |
| | <i>To record the payment of interest (\$5,000,000 par X 10% X 6/12 months = \$250,000)</i> | | |
| | | | |
| 31-Dec | Interest Expense | 250,000 | |
| | Cash | | 250,000 |
| | <i>To record the payment of interest (\$5,000,000 par X 10% X 6/12 months = \$250,000)</i> | | |