E10–4.

CASE A:

$500,000 x 0.67297	$336,485	
$15,000* x 16.35143	245,271	
Issue price (market rate less than coupon rate)	$581,756**	(at a premium)

*$500,000 x .06 x ½

**Using Excel or a financial calculator results in a present value of $581,757 (rounded).

CASE B:

$500,000 x 0.55368	$276,840	
$15,000* x 14.87747	223,162	
Issue price (market rate same as coupon rate)	$500,002**	(at par)

*$500,000 x .06 x ½

****Issue price should be exactly $500,000. The $2 difference is the result of rounding the present value factors at five decimal places. If you use Excel or a financial calculator to do this problem the present value will equal exactly $500,000.

CASE C:

$500,000 x 0.43499	$ 217,495	
$15,000* x 13.29437	199,416	
Issue price (market rate greater than coupon rate)	$ 416,911**	(at a discount)

*$500,000 x .06 x ½

**Using Excel or a financial calculator results in a present value of $416,910 (rounded).

E10–7.

Present value:

$250,000 x 0.67556	=	$168,890
$7,500* x 8.11090	=	60,832
Issue price	=	$229,722**

*$250,000 x .06 x 1/2

**Using Excel or a financial calculator results in a present value of $229,723 (rounded).

E10–9.

Present value:

$600,000 x 0.71679	=	$430,074
$22,500* x 6.66378	=	149,935
Issue price	=	$580,009**

*$600,000 x .075 x ½

**Using Excel or a financial calculator results in a present value of $580,009 (rounded).

Req. 1

January 1:

Cash (+A)	580,009	
Bonds payable (+L)		580,009

Req. 2

June 30:

Interest expense* (+E, -SE)	24,650	
Bonds payable (+L)		2,150
Cash (-A)		22,500

*($580,009 x .085 x ½)

Req. 3

June 30:

Balance sheet:

Long-term Liabilities

Bonds payable	$582,159*

*This is the book value of the bonds payable. It is computed by adding the amount of the discount amortized on June 30 ($2,150) to the book value of the bonds at the beginning of the period ($580,009).

E10–14.

Present value:

$2,000,000 x 0.43499	= $	869,980
$100,000* x 13.29437	=	1,329,437
Issue price	=	$2,199,417**

*$2,000,000 x .10 x 1/2

**Using Excel or a financial calculator results in a present value of $2,199,415 (rounded).

Req. 1

January 1:

Cash (+A)	2,199,417	
Bonds payable (+L)		2,199,417

Req. 2

June 30:

Interest expense (+E, -SE) ($2,199,417 x .085 x ½)	93,475	
Bonds payable (-L)	6,525	
Cash (-A) ($2,000,000 x .10 x ½)		100,000

Req. 3

Balance sheet:

Long-term Liabilities	
Bonds payable	$2,192,892*

*This is the book value of the bond payable. It is computed by subtracting the amount of the premium amortized on June 30 ($6,525) from the book value of the bond at the beginning of the period ($2,199,417).

E10–17.

Bonds payable (-L)	1,000,000	
Loss on bond call (+E, -SE)	50,000	
Cash (-A)		1,050,000*

*$1,000,000 x (1 +.05)