

exempleObligEng.xls

PAYABLE - STRAIGHT LINE METHOD

Bonds, 1000\$, 11%, 4 years

Yield (effective rate), 10%

110	1,1	100,00
110	1,21	90,91
110	1,331	82,64
1110	1,4641	<u>758,14</u>
		1031,70

Journal entries

t=0

Cash		1031,70	
	Bonds payable		1000,00
	Premium		31,70

t=1

Interest expense		102,08	
Premium		7,92	
	Cash		110,00

t=2

Interest expense		102,08	
Premium		7,92	
	Cash		110,00

t=3

Interest expense		102,08	
Premium		7,92	
	Cash		110,00

t=4

Interest expense		102,08	
Premium		7,92	
	Cash		110,00

Bonds payable		1000,00	
	Cash		1000,00

	Capital	Interest paid	Interest expense	Premium
t=0	1031,70			31,70
	-7,92	110	102,08	-7,92
t=1	1023,78			23,78
	-7,92	110	102,08	-7,92
t=2	1015,86			15,86
	-7,92	110	102,08	-7,92
t=3	1007,94			7,94
	-7,92	110	102,08	-7,92
t=4	1000,02			0,02

Note: Interest expense is constant <i>in dollars</i> over the years			
	<u>Expense</u>	<u>Book value</u>	<u>Exp. / Book value</u>
t=1	102,08	1031,70	9,89%
t=2	102,08	1023,78	9,97%
t=3	102,08	1015,86	10,05%
t=4	102,08	1007,94	10,13%

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PAYABLE - EFFECTIVE INTEREST METHOD

Bonds, 1000\$, 11%, 4 years

Yield (effective rate), 10%

Net present value calculation :

110	1,1	100,00
110	1,21	90,91
110	1,331	82,64
1110	1,4641	<u>758,14</u>
		1031,70

Journal entries

t=0

Cash		1031,70	
	Bonds payable		1000,00
	Premium		31,70

t=1

Interest expense		103,17	
Premium		6,83	
	Cash		110,00

t=2

Interest expense		102,49	
Premium		7,51	
	Cash		110,00

t=3

Interest expense		101,74	
Premium		8,26	
	Cash		110,00

t=4

Interest expense		100,91	
Premium		9,09	
	Cash		110,00

Bonds payable		1000,00	
	Cash		1000,00

	Capital	Interest paid	Interest expense	Premium
t=0	1031,70			31,70
	-6,83	110	103,17	-6,83
t=1	1024,87			24,87
	-7,51	110	102,49	-7,51
t=2	1017,36			17,36
	-8,26	110	101,74	-8,26
t=3	1009,09			9,09
	-9,09	110	100,91	-9,09
t=4	1000,00			0,00

Note: Interest expense is constant <i>in percentage</i> over the years			
	<u>Expense</u>	<u>Book value</u>	<u>Exp. / Book value</u>
t=1	103,17	1031,70	10,00%
t=2	102,49	1024,87	10,00%
t=3	101,74	1017,36	10,00%
t=4	100,91	1009,09	10,00%

INVESTMENT - STRAIGHT LINE METHOD

Bonds, 1000\$, 11%, 4 years
Yield (effective rate), 10%

Net present value calculation:

110	1,1	100,00
110	1,21	90,91
110	1,331	82,64
1110	1,4641	<u>758,14</u>
		1031,70

JOURNAL ENTRIES

t=0

Investment		1031,70	
Cash			1031,70

t=1

Cash		110,00	
Investment			7,92
Interest revenue			102,08

t=2

Cash		110,00	
Investment			7,92
Interest revenue			102,08

t=3

Cash		110,00	
Investment			7,92
Interest revenue			102,08

t=4

Cash		110,00	
Investment			7,92
Interest revenue			102,08

Cash		1000,00	
Investment			1000,00

	Capital	Interest collected	Interest revenue	Premium
t=0	1031,70			31,70
	-7,92	110	102,08	-7,92
t=1	1023,78			23,78
	-7,92	110	102,08	-7,92
t=2	1015,86			15,86
	-7,92	110	102,08	-7,92
t=3	1007,94			7,94
	-7,92	110	102,08	-7,92
t=4	1000,02			0,02

Note: Interest revenue is constant in dollars over the years

	Revenue	Book value	Rev. / Book value
t=1	102,08	1031,70	9,89%
t=2	102,08	1023,78	9,97%
t=3	102,08	1015,86	10,05%
t=4	102,08	1007,94	10,13%

INVESTMENT - EFFECTIVE RATE METHOD

Bonds, 1000\$, 11%, 4 years
Yield (effective rate), 10%

Net present value calculation:

110	1,1	100,00
110	1,21	90,91
110	1,331	82,64
1110	1,4641	<u>758,14</u>
		1031,70

JOURNAL ENTRIES

t=0			
Investment		1031,70	
Cash			1031,70
t=1			
Cash		110,00	
Investment			6,83
Interest revenue			103,17
t=2			
Cash		110,00	
Investment			7,51
Interest revenue			102,49
t=3			
Cash		110,00	
Investment			8,26
Interest revenue			101,74
t=4			
Cash		110,00	
Investment			9,09
Interest revenue			100,91
Cash		1000,00	
Investment			1000,00

	Capital	Interest collected	Interest revenue	Premium
t=0	1031,70			31,70
	-6,83	110	103,17	-6,83
t=1	1024,87			24,87
	-7,51	110	102,49	-7,51
t=2	1017,36			17,36
	-8,26	110	101,74	-8,26
t=3	1009,09			9,09
	-9,09	110	100,91	-9,09
t=4	1000,00			0,00

Note: Interest revenue is constant in percentage over the years

	Revenue	Book value	Rev. / Book value
t=1	103,17	1031,70	10,00%
t=2	102,49	1024,87	10,00%
t=3	101,74	1017,36	10,00%
t=4	100,91	1009,09	10,00%