FIN 2601

Interest rates and bond valuation **Practice questions**

Solution

Question 1

$r_1 = r^* + IP + RP_1$

16 = 2, 8 + IP + 5, 2

IP = 8 %

Chapter 6, page 256.

Question 2

Annual coupon = R 1 000 x 9 % = R 90

Current yield = Annual coupon ÷ Current bond price

= 90 ÷ 940 = 9, 6 %

Chapter 6, page 265.

Question 3

Long term debt as the cost thereof would be lower than short term debt.

Chapter 6, page 259.

Question 4

Bond X because of the better rating the bond will likely have a lower risk of default.

Chapter 6, page 266.

Question 5

5.1)

FV	= 1000	(The amount that the bond will pay at maturity)
PMT	= 1 000 x 13 % = 130	(The annual interest payments to be received from holding the bond, in Rands)
N	= 15	(The time to maturity)
I/ YR	= 11 %	(Your required return)

so, PV = R 1 143, 82

Notice that the current price of the bond is higher than the par value of the bond. This is because the annual coupon rate is larger than the required return on the bond and the bond therefore sells at a premium.

Chapter 6, page 274.

5.2)

FV	=	1000
N	=	15
I/YR	=	14
PMT	=	130
R 938, 78	=	PV

Because the required return is now larger than the annual coupon rate, the bond will sell at a discount.

Chapter 6, page 274.

5.3)

@ 11%: FV = 1000, I/YR = 11%, PMT = 130, N = 3

so PV = R 1048, 87

@ 14 %: FV = 1000, I/YR = 14 %, PMT = 130, N = 3

so PV = R 976, 78

5.4)

The bond's value will remain at par until maturity. In other words, the value of the bond will not fluctuate.

Chapter 6, page 276.

Question 6

FV	=	1000	
PMT	=	160	(1000 x 16%)
PV	=	-1287	
N	=	10	
11, 11 %	=	I/ YR	

Chapter 6, page 278.

Question 7

FV	=	1000	
PMT	=	60	(120 ÷ 2, semi annual payment)
N	=	10	(5 x 2, semi annual, 2 payments per year)
I / YR	=	7	(14 ÷ 2, semi annual interest rate)
R 929, 76	=	PV	

Chapter 6, page 279.