KFUPM	Term 181	Date: 27/11/2018
Mathematics & Statistics	AS 201	Duration: 50 minutes
	Quiz# 4	
Name:	ID #:	Section:

Q1: Matt purchased a 20-year par value bond with an annual nominal coupon rate of 8% payable semiannually at a price of 1722.25. The bond can be called at par value X on any coupon date starting at the end of year 15 after the coupon is paid. The lowest yield rate that Matt can possibly receive is a nominal annual interest rate of 6% convertible semiannually. Calculate X.

Q2: A 10,000 par value 10-year bond with 8% annual coupons is bought at a premium to yield an annual effective rate of 6%. Calculate the interest portion of the 7th coupon.

Q3: Mary purchased a 10 year par value bond with semiannual coupons at a nominal annual rate of 4% convertible semi-annually at a price of 1021.50. The bond can be called at par value 1100 on any coupon date starting at the end of year 5.

What is the minimum yield that Mary could receive, expressed as a nominal annual rate of interest convertible semiannually?

Q4: Bill buys a 10-year 1000 par value bond with semi-annual coupons paid at an annual rate of 6%. The price assumes an annual nominal yield of 6%, compounded semi-annually.
As Bill receives each coupon payment, he immediately puts the money into an account earning interest at an annual effective rate of i.
At the end of 10 years, immediately after Bill receives the final coupon payment and the redemption value of the bond, Bill has earned an annual effective yield of 7% on his investment in the bond.
Calculate i.

Q5: Toby purchased a 20-year par value bond with semiannual coupons of 40 and a redemption value of 1100. The bond can be called at 1200 on any coupon date prior to maturity, starting at the end of year 15.
Calculate the maximum price of the bond to guarantee that Toby will earn an annual nominal interest rate of at least 6% convertible semiannually.

Q6: Consider two 30-year bonds with the same purchase price. Each has an annual coupon rate of 5% paid semiannually and a par value of 1000.
The first bond has an annual nominal yield rate of 5% compounded semiannually, and a redemption value of 1200.
The second bond has an annual nominal yield rate of j compounded semiannually, and a redemption value of 800.
Calculate j.