

1990

Data for Question 20

A bond is issued each quarter commencing on 1/1/90 and ending on 10/1/99.

Provisions of each bond:

Face amount: \$100,000.  
Maturity value: \$100,000.  
Coupon rate: 10% per year, compounded monthly.  
Coupon dates: End of each month.  
Number of coupons: 360.

Yield to maturity: 12% per year, compounded annually.

Question 20

In what range is the present value as of 1/1/90 of all future coupon payments for the series of 40 bonds?

- (A) Less than \$2,000,000
- (B) \$2,000,000 but less than \$2,040,000
- (C) \$2,040,000 but less than \$2,080,000
- (D) \$2,080,000 but less than \$2,120,000
- (E) \$2,120,000 or more

1995

Data for Question 18

Face amount of a bond: \$1,000,000.

Purchase price: \$980,000.

Purchase date: 1/1/90.

Maturity value: \$1,000,000.

Maturity date: 12/31/2009.

Coupon rate: 8% per year, payable semiannually.

Coupon dates: 6/30 and 12/31.

Assumptions as of 1/1/90:

Bond will be redeemed at par on the maturity date.

Yield to maturity: 8.2052% per year, compounded semiannually.

Revised assumptions as of 1/1/95:

Bond will be called at \$1,030,000 on 12/31/99 (after coupon payment).

Revised yield to call date (from purchase date): 8.4972% per year, compounded semiannually.

Question 18

In what range is the change in the amortized cost of the bond due to the revised assumptions as of 1/1/95?

- [A] Less than \$12,500
- [B] \$12,500 but less than \$15,000
- [C] \$15,000 but less than \$17,500
- [D] \$17,500 but less than \$20,000
- [E] \$20,000 or more

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2004

Data for Question 23 (3 points)

Face amount of bond:	\$1,000.
Coupon rate:	6% payable semi-annually.
Redemption:	Bond is redeemable at par in five equal annual installments commencing at the end of the tenth year following purchase.
Yield rate:	5% per annum, effective.

Question 23

In what range is the purchase price?

- (A) Less than \$1,085
- (B) \$1,085 but less than \$1,092
- (C) \$1,092 but less than \$1,099
- (D) \$1,099 but less than \$1,106
- (E) \$1,106 or more

Data for Question 13 (3 points)

Terms of a bond:

Face amount	\$1,000
Redemption amount	\$1,000
Term	10 years
Coupons	3%, payable semi-annually
Yield rate	4% nominal, compounded semi-annually

Immediately after the fifth coupon payment is made, the bond is sold to yield a rate of 5% nominal, compounded monthly.

X = the absolute value of the difference between the book value and the sale price.

Question 13

In what range is X?

- (A) Less than \$58.00
- (B) \$58.00 but less than \$60.00
- (C) \$60.00 but less than \$62.00
- (D) \$62.00 but less than \$64.00
- (E) \$64.00 or more

2007

Data for Question 26 (3 points)

Terms of a 10-year bond issued on 1/1/2007:

Face amount	\$1,000
Redemption amount	\$1,000
Coupon rate	4.0% per year, payable semi-annually
Yield rate	5.0% per year, compounded semi-annually

Question 26

What is the total investment return to the purchaser over the lifetime of the bond?

- (A) Less than \$350
- (B) \$350 but less than \$400
- (C) \$400 but less than \$450
- (D) \$450 but less than \$500
- (E) \$500 or more

2008

Data for Question 1 (3 points)

Terms of a 20-year bond:

Face amount	\$1,000
Redemption amount	\$1,050
Coupons	Payable annually with first coupon \$75 Each subsequent coupon is 3% greater than the preceding coupon
Yield	8.25% per year, compounded annually

Question 1

In what range is the purchase price of the bond?

- (A) Less than \$1,030
- (B) \$1,030 but less than \$1,065
- (C) \$1,065 but less than \$1,100
- (D) \$1,100 but less than \$1,135
- (E) \$1,135 or more

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2008

Data for Question 28 (3 points)

Terms of a bond are as follows:

Face amount	\$1,000
Redemption amount	\$1,000
Term	20 years
Coupon rate	5.0% per year, payable annually

The yield curve has the following schedule of spot rates:

<u>Maturity</u>	<u>Spot Rate</u>
1 – 5 years	5.0%
6 – 15 years	7.0%
16 – 20 years	9.0%

$X$  = the bond's price at issue.

Question 28

In what range is  $X$  ?

- (A) Less than \$675
- (B) \$675 but less than \$725
- (C) \$725 but less than \$775
- (D) \$775 but less than \$825
- (E) \$825 or more

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2010

Data for Question 7 (4 points)

Terms of a bond:

Issue date      1/1/2003

Term            15 years

Par value       \$10,000

Coupons        8.0% per year, paid on 6/30 and 12/31

Amortized value on 7/1/2010 \$13,741

Amortized value on 1/1/2011 \$13,630

$X$  = the redemption amount to be paid upon maturity.

Question 7

In what range is  $X$ ?

- (A)    Less than \$11,680
- (B)    \$11,680 but less than \$11,750
- (C)    \$11,750 but less than \$11,820
- (D)    \$11,820 but less than \$11,890
- (E)    \$11,890 or more

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2010

Data for Question 21 (3 points)

Terms of a bond:

Date of issue 1/1/2010

Term 20 years

Par value \$1,000

Coupons 6.0%, payable annually, beginning 12/31/2010

Redemption amount Par value

Yield to maturity 5.0%

Default Upon default, no further coupons are paid and no redemption amount is repaid. The probability of default in any year is 10%.

Question 21

In what range is the bond's price on 1/1/2010?

- (A) Less than \$125
- (B) \$125 but less than \$200
- (C) \$200 but less than \$275
- (D) \$275 but less than \$350
- (E) \$350 or more

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