Chapter 6
Interest Rates and Bond Valuation

■ Learning Goals

1. Describe interest rate fundamentals, the term structure of interest rates, and risk premiums.
2. Review the legal aspects of bond financing and bond cost.
3. Discuss the general features, quotations, ratings, popular types, and international issues of corporate bonds.
4. Understand the key inputs and basic model used in the valuation process.
5. Apply the basic valuation model to bonds and describe the impact of required return and time to maturity on bond values.
6. Explain yield to maturity (YTM), its calculation, and the procedure used to value bonds that pay interest semiannually.

■ True/False

1. Real rate of interest is the actual rate of interest charged by the suppliers of funds and paid by the demanders.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Real Rate of Interest

2. The longer the maturity of a Treasury (or any other) security, the smaller the interest rate risk.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Interest Rate Risk

3. A downward-sloping yield curve indicates generally cheaper short-term borrowing costs than long-term borrowing costs.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

4. The nominal rate of interest is the rate that creates equilibrium between the supply of savings and the demand for investment funds in a perfect world, without inflation, where funds suppliers and demanders have no liquidity preference and all outcomes are certain.

   Answer: FALSE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Nominal Interest Rate

5. An inverted yield curve is an upward-sloping yield curve that indicates generally cheaper short-term borrowing costs than long-term borrowing costs.

   Answer: FALSE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

6. Although Treasury securities have no risk of default or illiquidity, they do suffer from "maturity risk"—the risk that interest rates will change in the future and thereby impact longer maturities more than shorter maturities.

   Answer: TRUE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Risk Premiums

7. Liquidity preference theory suggests that for any given issuer, long-term interest rates tend to be higher than short-term rates due to the lower liquidity and higher responsiveness to general interest rate movements of longer-term securities; causes the yield curve to be upward-sloping.

   Answer: TRUE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Term Structure Theories

8. The term structure of interest rates is the graphical presentation of the relationship between the annual rate of interest earned on a security purchased on a given day and held to maturity and the remaining time to maturity.

   Answer: FALSE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

9. An inverted yield curve is a downward-sloping yield curve that indicates generally cheaper long-term borrowing costs than short-term borrowing costs.

   Answer: TRUE
   Level of Difficulty: 3
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

10. A yield curve that reflects relatively similar borrowing costs for both short- and long-term loans is called a normal yield curve.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

11. Upward-sloping yield curves result from higher future inflation expectations, lender preferences for shorter maturity loans, and greater supply of short-term as opposed to long-term loans relative to their respective demand.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

12. Restrictive covenants are contractual clauses in long-term debt agreements that place certain operating and financial constraints on the borrower.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Provisions

13. Standard debt provisions specify certain criteria of satisfactory record keeping and reporting, tax payment, and general business maintenance on the part of the lending firm.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Provisions

14. Trustee is a paid party representing the bond issuer in the bond indenture.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Indenture

15. Restrictive covenants, coupled with standard debt provisions, allow the lender to monitor and control the borrower's activities in order to protect itself against increases in borrower risk.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Bond Provisions

16. The purpose of the restrictive debt covenant that imposes fixed assets restrictions is to limit the amount of fixed-payment obligations.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Bond Provisions

17. In a practical sense, the longer the term of a bond, the greater the default risk associated with the bond.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 2
Topic: Risk Premiums

18. The size of the bond offering affects the interest cost of borrowing in an inverse manner.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 2
Topic: Risk Premiums

19. To carry out the sinking fund requirement, the corporation makes semi-annual or annual payments to a trustee, who uses these funds to retire bonds by purchasing them in the marketplace.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 2
Topic: Bond Features

20. Debentures such as convertible bonds are unsecured bonds that only creditworthy firms can issue.

Answer: TRUE
Level of Difficulty: 1
Learning Goal: 3
Topic: Bond Types

21. Call premium is the amount by which the call price exceeds the market price of the bond.

Answer: FALSE
Level of Difficulty: 1
Learning Goal: 3
Topic: Bond Features

22. A bond issued by an American Company that is denominated in Swiss Francs and sold in Switzerland would be an example of a foreign bond.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Types

23. Stock-purchase warrants are instruments that give their holder the right to purchase a certain number of shares of the firm's common stock at the market price over a certain period of time.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Features

24. A foreign bond is a bond issued in a host country's financial market, in the host country's currency, by a foreign borrower.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Types

25. Putable bonds give the bondholders an option to sell the bond at a price higher than par value by the amount of one year interest payment when and if the firm takes specified actions such as being acquired, acquiring another company, or issuing a large amount of additional debt.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

26. Since a putable bond gives its holder the right to "put the bond" at specified times or actions by the firm, the bond's yield is lower than that of a non-putable bond.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

27. High-quality (high-rated) bonds provide lower returns than lower-quality (low-rated) bonds.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Ratings

28. A Eurobond is a bond issued by an international borrower and sold to investors in countries with currencies other than the country in which the bond is denominated.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

29. Call feature is a feature included in almost all corporate bonds that allows the issuer to repurchase bonds at the market price prior to maturity.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

30. There is an inverse relationship between the quality or rating of a bond and the rate of return it must provide bondholders.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Ratings

31. Sinking-fund requirement is a restrictive provision often included in a bond indenture providing for periodic payments representing only interest and a large lump-sum payment at the maturity of the loan representing the entire loan principal.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Bond Features

32. In a bond indenture, subordination is the stipulation that subsequent creditors agree to wait until all claims of the senior debt are satisfied.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Provisions

33. Bondholders will convert their convertible bonds into shares of stock only when the conversion price is greater than the market price of the stock.

Answer: FALSE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

34. To sell a callable bond, the issuer must pay a higher interest rate than on noncallable bonds of equal risk.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

35. The conversion feature of a bond is a feature that is included in almost all corporate bond issues that gives the issuer the opportunity to repurchase bonds at a stated price prior to maturity.

Answer: FALSE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

36. In subordinated debentures, payment of interest is required only when earnings are available.

Answer: FALSE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

37. A foreign bond is issued in a host country's financial market, in the host country's currency, by a foreign borrower.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

38. Since the issuer of zero (or low) coupon bonds can annually deduct the current year's interest accrual without having to actually pay the interest until the bond matures (or is called), its cash flow each year is increased by the amount of the tax shield provided by the interest deduction.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

39. The market price of a callable bond will not generally exceed its call price, except in the case of a convertible bond.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

40. Floating-rate bonds are bonds that can be redeemed at par at the option of their holder either at specific date after the date of issue and every 1 to 5 years thereafter or when and if the firm takes specified actions such as being acquired, acquiring another company, or issuing a large amount of additional debt.

    Answer: FALSE
    Level of Difficulty: 4
    Learning Goal: 3
    Topic: Bond Types

41. The value of an asset depends on the historical cash flow(s) up to the present time.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 4
    Topic: Valuation Fundamentals

42. Valuation is the process that links risk and return to determine the worth of an asset.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 4
    Topic: Valuation Fundamentals

43. The value of an asset is determined by discounting the expected cash flows back to their present value, using the market return as discount rate.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 4
    Topic: Valuation Fundamentals

44. In the valuation process, the higher the risk, the greater the required return.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 4
    Topic: Valuation Fundamentals

45. The level of risk associated with a given cash flow positively affects its value.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 4
    Topic: Valuation Fundamentals

46. Interest rate risk is the chance that interest rates will change and thereby change the required return and bond value.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 5
    Topic: Bond Pricing

47. The value of a bond with semiannual interest is greater than a bond with annual interest, everything else the same.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 5
    Topic: Bond Pricing

48. Regardless of the exact cause, the important point is that when the required return is greater than the coupon interest rate, the bond value will be less than its par value.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Bond Pricing

49. Increases in the basic cost of long-term funds or in risk will raise the required return on the bond.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing

50. A bond is said to sell at a premium when the required return and the bond value fall below the coupon interest rate and the par, respectively.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing

51. The required return on the bond is likely to differ from the stated interest rate for either of two reasons: 1) economic conditions have changed, causing a shift in the basic cost of long-term funds, or 2) the firm's risk has changed.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Yield to Maturity

52. Yield to maturity (YTM) is the rate investors earn if they buy the bond at a specific price and hold it until maturity.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Yield to Maturity

53. The yield to maturity on a bond with a current price equal to its par, or face, value will always be equal to the coupon interest rate.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Yield to Maturity

54. When the required return equals the coupon interest rate, the bond's value will remain at par until it matures.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Yield to Maturity

55. When the required return is different from the coupon interest rate and is assumed to be constant until maturity, the value of the bond will approach its par value as the passage of time moves the bond's value closer to maturity.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Yield to Maturity

56. When the bond value differs from par, the yield to maturity will differ from the coupon interest rate.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Yield to Maturity

57. Because a rise in interest rates, and therefore the required return, results in an increase in bond value, bondholders are typically more concerned with dropping interest rates.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Yield to Maturity

58. Whenever the required return is different from the coupon interest rate, the amount of time to maturity affects bond value, even if the required return remains constant until maturity.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Yield to Maturity

59. The shorter the amount of time until a bond's maturity, the more responsive is its market value to a given change in the required return.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Bond Pricing

60. A bond with short maturity has less "interest rate risk" than a bond with long maturity when all other features—coupon interest rate, par value, and interest payment frequency—are the same.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 6
Topic: Bond Pricing

61. The real rate of interest is the compensation paid by the borrower of funds to the lender; from the borrower's point of view, the cost of borrowing funds.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 1
Topic: Real Rate of Interest

62. The nominal rate of interest is equal to the sum of the real rate of interest plus the risk free rate of interest.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 1
Topic: Nominal Rate of Interest (Equation 6.1)

63. The risk free rate of interest is equal to the sum of the real rate of interest plus an inflation risk premium.

Answer: TRUE
Level of Difficulty: 1
Learning Goal: 1
Topic: Risk Free Rate of Interest (Equation 6.3)

64. The nominal rate of interest is equal to the sum of the real rate of interest plus an inflation premium plus a risk premium.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 1
Topic: Nominal Rate of Interest (Equation 6.1)

65. An inverted yield curve is upward-sloping and indicates generally cheaper long-term borrowing costs than short-term borrowing costs.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 1
Topic: Term Structure of Interest Rates

66. A normal yield curve is upward-sloping and indicates generally cheaper short-term borrowing costs than long-term borrowing costs.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 1
Topic: Term Structure of Interest Rates

67. An inverted yield curve is downward-sloping and indicates generally cheaper long-term borrowing costs than short-term borrowing costs.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

68. Between 1978 and 2000, the rate of return on U.S. treasury bills always exceeded the rate of inflation as measured by the consumer price index.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Risk Free Rate of Interest

69. In theory, the rate of return on U.S. treasury bills should always exceed the rate of inflation as measured by the consumer price index.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Risk Free Rate of Interest

70. The market segmentation theory suggests that the shape of the yield curve is determined by the supply and demand for loans within each maturity segment.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure Theories

71. The liquidity preference theory suggests that the shape of the yield curve is determined by the supply and demand for loans within each maturity segment.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure Theories

72. The liquidity preference theory suggests that short-term rates should be lower than long-term rates.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure Theories

73. The expectations theory suggests that the shape of the yield curve reflects investors expectations about future inflation rates.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure Theories

74. The reason for a difference in the yield between a Aaa corporate bond and an otherwise identical Baa bond is the risk premium; the real interest rate and the inflation rate is the same for both.

 Answer: TRUE
 Level of Difficulty: 2
 Learning Goal: 1
 Topic: Risk Premiums

75. According to Moodys, a bond rated A should provide investors with a higher yield than an otherwise identical bond rated Aa.

 Answer: FALSE
 Level of Difficulty: 2
 Learning Goal: 1
 Topic: Risk Premiums

76. The possibility that the issuer of a bond will not pay the contractual interest or principal payments as scheduled is called maturity risk.

 Answer: FALSE
 Level of Difficulty: 2
 Learning Goal: 1
 Topic: Risk Premiums

77. The possibility that the issuer of a bond will not pay the contractual interest or principal payments as scheduled is called default risk.

 Answer: TRUE
 Level of Difficulty: 2
 Learning Goal: 1
 Topic: Risk Premiums

78. Restrictive covenants, which are also known as standard debt provisions, place operating and financial constraints on the borrower.

 Answer: FALSE
 Level of Difficulty: 2
 Learning Goal: 2
 Topic: Bond Provisions

79. In a bond indenture, the term security interest refers to the fact that most firms that issue bonds are required to establish sinking fund provisions to protect bondholders.

 Answer: FALSE
 Level of Difficulty: 2
 Learning Goal: 2
 Topic: Bond Indenture

80. In a bond indenture, the term security interest refers to collateral pledged against the bond.

 Answer: TRUE
 Level of Difficulty: 2
 Learning Goal: 2
 Topic: Bond Indenture

81. The length of the maturity on a bond offering affects its cost. In general, the longer the maturity, the higher the cost.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Cost of Bonds

82. The length of the maturity on a bond offering affects its cost. In general, the longer the maturity, the lower the cost.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Cost of Bonds

83. A call feature in a bond allows bondholders to change each bond into a stated number of shares of common stock.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

84. A conversion feature in a bond allows bondholders to change each bond into a stated number of shares of common stock.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

85. A call feature in a bond allows the issuer the opportunity to repurchase bonds at a stated price prior to maturity. This option has a greater chance of being exercised (to the detriment of the bondholder) if market interest rates have fallen since the bond was issued.

    Answer: TRUE
    Level of Difficulty: 4
    Learning Goal: 3
    Topic: Bond Features

86. A call feature in a bond allows the issuer the opportunity to repurchase bonds at a stated price prior to maturity. This option has a greater chance of being exercised (to the benefit of the bondholder) if market interest rates have fallen since the bond was issued.

    Answer: FALSE
    Level of Difficulty: 4
    Learning Goal: 3
    Topic: Bond Features

87. A call feature in a bond allows the issuer the opportunity to repurchase bonds at a stated price prior to maturity. This option has a greater chance of being exercised (to the detriment of the bondholder) if market interest rates have risen since the bond was issued.

    Answer: FALSE
    Level of Difficulty: 4
    Learning Goal: 3
    Topic: Bond Features

88. In general, IBM bonds will experience greater trading activity (in terms of the number of bonds traded on a given day) compared to IBM stock.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Quotations

89. In general, IBM bonds will experience less trading activity (in terms of the number of bonds traded on a given day) compared to IBM stock.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Quotations

90. Any bond rated according to Moody's Caa through Aaa would be considered investment grade debt.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Ratings

91. Any bond rated according to Moody's Ba or lower would be considered speculative or "junk."

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Ratings

92. As an outstanding bond approaches maturity, the price of the bond will always trend toward par value until, at maturity, the bond is worth its face value.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Bond Ratings

■ Multiple Choice Questions

1. The _________ rate of interest creates equilibrium between the supply of savings and the demand for investment funds.

(a) nominal
(b) real
(c) risk-free
(d) inflationary

Answer: B
Level of Difficulty: 1
Learning Goal: 1
Topic: Real Rate of Interest

2. The _________ rate of interest is the actual rate charged by the supplier and paid by the demander of funds.
   (a) nominal
   (b) real
   (c) risk-free
   (d) inflationary

   Answer: A
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Nominal Rate of Interest

3. The _________ is the annual rate of interest earned on a security purchased on a given date and held to maturity.
   (a) term structure
   (b) yield curve
   (c) risk-free rate
   (d) yield to maturity

   Answer: D
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Yield to Maturity

4. The _________ is/are a graphic depiction of the term structure of interest rates.
   (a) yield curve
   (b) supply and demand functions
   (c) risk-return profile
   (d) aggregate demand curve

   Answer: A
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

5. _________ yield curve reflects higher expected future rates of interest.
   (a) An upward-sloping
   (b) A flat
   (c) A downward-sloping
   (d) A linear

   Answer: A
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

6. _________ yield curve reflects lower expected future rates of interest.
   (a) An upward-sloping
   (b) A flat
   (c) A downward-sloping
   (d) A linear

   Answer: C
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Term Structure of Interest Rates

7. Generally, an increase in risk will result in _________ required return or interest rate.
   (a) a lower
   (b) a higher
   (c) an unchanged
   (d) an undetermined

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Nominal Rate of Interest

8. The nominal rate of interest is composed of
   (a) the real rate plus an inflationary expectation.
   (b) the real rate plus a risk premium.
   (c) the risk-free rate plus an inflationary expectation.
   (d) the risk-free rate plus a risk premium.

   Answer: D
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Nominal Rate of Interest

9. The _________ rate of interest is typically the required rate of return on a three-month U.S. Treasury bill.
   (a) nominal
   (b) real
   (c) risk-free
   (d) premium

   Answer: C
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Risk-Free Rate of Interest

10. Generally, long-term loans have higher interest rates than short-term loans because of
    (a) the general expectation of higher future rates of inflation.
    (b) lender preferences for shorter-term, more liquid loans.
    (c) greater demand for long-term rather than short-term loans relative to the supply of such loans.
    (d) all of the above.

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

11. A downward-sloping yield curve that indicates generally cheaper long-term borrowing costs than short-term borrowing costs is called
    (a) normal yield curve.
    (b) inverted yield curve.
    (c) flat yield curve.
    (d) None of the above.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

12. An upward-sloping yield curve that indicates generally cheaper short-term borrowing costs than long-term borrowing costs is called
    (a) normal yield curve.
    (b) inverted yield curve.
    (c) flat yield curve.
    (d) None of the above.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

13. A yield curve that reflects relatively similar borrowing costs for both short-term and long-term loans is called
    (a) normal yield curve.
    (b) inverted yield curve.
    (c) flat yield curve.
    (d) None of the above.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure of Interest Rates

14. The theory suggesting that for any given issuer, long-term interest rates tends to be higher than short-term rates is called
    (a) expectation hypothesis.
    (b) liquidity preference theory.
    (c) market segmentation theory.
    (d) None of the above.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

15. The yield curve in an economic period of high inflation would most likely be
    (a) upward-sloping.
    (b) flat.
    (c) downward-sloping.
    (d) linear.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

16. The yield curve in an economic period of low to moderate inflation would most likely be
    (a) upward-sloping.
    (b) flat.
    (c) downward-sloping.
    (d) linear.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

17. The three theories cited to explain the general shape of the yield curve are all of the following except
    (a) expectations hypothesis.
    (b) market segmentation theory.
    (c) liquidity preference theory.
    (d) security markets theory.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

18. The theory that explains only the tendency for the yield curve to be upward sloping is
    (a) expectations hypothesis.
    (b) liquidity preference theory.
    (c) market segmentation theory.
    (d) investor perception theory.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

19. The risk premium consists of a number of components, including all of the following EXCEPT
    (a) default risk.
    (b) inflationary risk.
    (c) tax treatment risk.
    (d) liquidity risk.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Risk Premiums

20. At any time, the slope of the yield curve is affected by
    (a) inflationary expectations.
    (b) liquidity preferences.
    (c) the comparative equilibrium of supply and demand in the short-term and long-term market segments.
    (d) all of the above.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 1
    Topic: Term Structure Theories

21. All of the following are examples of long-term debt EXCEPT
    (a) bonds.
    (b) lines of credit.
    (c) term loans.
    (d) debentures.

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Types of Bonds

22. The legal contract setting forth the terms and provisions of a corporate bond is a(n)
    (a) indenture.
    (b) debenture.
    (c) loan document.
    (d) promissory note.

    Answer: A
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Indenture

23. The cost of long-term debt generally _________ that of short-term debt.
    (a) is less than
    (b) is equal to
    (c) is greater than
    (d) has no relation to

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Cost of Bonds

24. A _________ is a restrictive provision on a bond which provides for the systematic retirement of the bonds prior to their maturity.
    (a) redemption clause
    (b) sinking-fund requirement
    (c) conversion feature
    (d) subordination clause

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Provisions

25. A _________ is a complex and lengthy legal document stating the conditions under which a bond has been issued.
    (a) bond debenture
    (b) warrant
    (c) sinking fund
    (d) bond indenture

    Answer: D
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Indenture

26. _________ is a paid individual, corporation, or commercial bank trust department that acts as a third party to a bond indenture to ensure that the issuer does not default on its contractual responsibilities to the bondholders.
    (a) A trustee
    (b) An investment banker
    (c) A bond issuer
    (d) A bond rating agency

    Answer: A
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Indenture

27. If a bond pays $1,000 plus interest at maturity, $1,000 is called the
    (a) stated value.
    (b) market value.
    (c) par value.
    (d) long-term value.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 2
    Topic: Bond Features

28. All of the following are examples of restrictive debt covenants EXCEPT
    (a) prohibition on selling accounts receivable.
    (b) supplying the creditor with audited financial statements.
    (c) constraint on subsequent borrowing.
    (d) prohibition on entering certain types of lease arrangements.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Bond Provisions

29. All of the following are examples of restrictive debt covenants EXCEPT
    (a) limiting the firm's annual cash dividend payments.
    (b) supplying audited financial records.
    (c) prohibiting combinations with other firms.
    (d) management restrictions to maintaining certain key employees.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Bond Provisions

30. All of the following are examples of standard debt provisions EXCEPT
    (a) maintaining all facilities in good working order.
    (b) paying taxes and liabilities when due.
    (c) maintaining satisfactory accounting records.
    (d) limiting the annual dividend payment.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

31. An example of a standard debt provision is the
    (a) limiting of the corporation's annual cash dividend payments.
    (b) requirement to pay taxes and other liabilities when due.
    (c) restricting the corporation from disposing of fixed assets.
    (d) constraints on subsequent borrowing.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

32. A debt instrument indicating that a corporation has borrowed a certain amount of money and promises to repay it in the future under clearly defined terms is called
    (a) discount bond.
    (b) corporate bond.
    (c) bond indenture.
    (d) treasury bond.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Types

33. The major factor(s) affecting the cost, or interest rate, on a bond is (are) its
    (a) maturity.
    (b) size of the offering.
    (c) issuer risk.
    (d) basic cost of money.
    (e) All of the above.

    Answer: E
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Cost of Bonds

34. The purpose of the restrictive debt covenant that requires maintaining a minimum level of net working capital is to
    (a) protect the lender by controlling the risk and marketability of the borrower's security investment alternatives.
    (b) limit the amount of fixed-payment obligations.
    (c) ensure a cash shortage does not cause an inability to meet current obligations.
    (d) prevent liquidation of assets through large salary increases of key employees.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

35. The purpose of the restrictive debt covenant that prohibits borrowers from entering into certain types of leases is to
    (a) protect the lender by controlling the risk and marketability of the borrower's security investments alternatives.
    (b) limit the amount of fixed-payment obligations.
    (c) ensure a cash shortage does not cause an inability to meet current obligations.
    (d) prevent liquidation of assets through large salary increases of key employees.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

36. The purpose of the restrictive debt covenant that imposes fixed assets restrictions is to
    (a) protect the lender by controlling the risk and marketability of the borrower's security investment alternatives.
    (b) limit the amount of fixed-payment obligations.
    (c) ensure a cash shortage does not cause an inability to meet current obligations.
    (d) prevent the firm from liquidation, acquisition, or encumbrance of capital assets.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

37. The purpose of the restrictive debt covenant that prohibits the sale of accounts receivable is to
    (a) assure the lender that the borrowed funds are put to the use for which they were intended.
    (b) limit the amount of fixed-payment obligations.
    (c) ensure that a cash shortage does not cause an inability to meet current obligations.
    (d) prevent liquidation of assets through large salary increases of key employees.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Bond Provisions

38. The purpose of the restrictive debt covenant that requires that subsequent borrowing be subordinated to the original loan is to
(a) ensure that certain key employees are maintained.
(b) limit the amount of fixed-payment obligations.
(c) ensure a cash shortage does not cause an inability to meet current obligations.
(d) protect the lender by maintaining its position in the priority of claims in the event of liquidation.

Answer: D
Level of Difficulty: 3
Learning Goal: 2
Topic: Bond Provisions

39. _________ is a stipulation in a long-term debt agreement that subsequent or less important creditors agree to wait until all claims of the _________ are satisfied before having their claims satisfied.
(a) Subordination; common stockholders
(b) Subordination; senior debt
(c) The combination restriction; senior debt
(d) The senior debt; common stockholders

Answer: B
Level of Difficulty: 3
Learning Goal: 2
Topic: Bond Provisions

40. Violation of any standard or restrictive provision by the borrower gives the lender the right to do all of the following EXCEPT
(a) alter the terms of the initial agreement, for example accelerate the maturity date.
(b) demand immediate repayment.
(c) increase the interest rate.
(d) seize the loan collateral.

Answer: D
Level of Difficulty: 3
Learning Goal: 2
Topic: Bond Provisions

41. To compensate for the uncertainty of future interest rates and the fact that the longer the term of a loan the higher the probability that the borrower will default, the lender typically
(a) charges a higher interest rate on long-term loans.
(b) reserves the right to change the terms of the loan at any time.
(c) includes excessively restrictive debt provisions.
(d) reserves the right to demand immediate payment at any time.

Answer: A
Level of Difficulty: 3
Learning Goal: 2
Topic: Cost of Bonds

42. The size of the loan and its cost of borrowing are
    (a) not related.
    (b) inversely related.
    (c) independent.
    (d) correlated.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Cost of Bonds

43. The major factors affecting the cost of long-term debt include all of the following EXCEPT
    (a) restrictive covenants.
    (b) loan maturity.
    (c) loan size.
    (d) the basic cost of money.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Cost of Bonds

44. The _________ feature permits the issuer to repurchase bonds at a stated price prior to maturity.
    (a) call
    (b) conversion
    (c) put
    (d) capitalization

    Answer: A
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Features

45. The _________ feature allows the bondholder to change each bond into a stated number of shares of stock.
    (a) call
    (b) conversion
    (c) put
    (d) capitalization

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Features

46. Another name for a low or deep/zero-discounted bond is a
    (a) junk bond.
    (b) floating rate bond.
    (c) zero coupon bond.
    (d) subordinated debenture.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Types

47. A _________ gives purchasers inflation protection.
    (a) zero coupon bond
    (b) junk bond
    (c) floating rate bond
    (d) income bond

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Types

48. _________ became popular vehicle used to finance mergers and takeovers.
    (a) Income bonds
    (b) Junk bonds
    (c) Floating rate bonds
    (d) Convertible debentures

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Types

49. _________ allow the holder to purchase a certain number of shares of the firm's common stock at a specified price over a certain period of time and are occasionally part of a debt agreement.
    (a) Rights
    (b) Stock-purchase warrants
    (c) Debentures
    (d) Puts and calls

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Bond Features

50. _________ is secured by real estate.
    (a) An income bond
    (b) A debenture
    (c) A mortgage bond
    (d) A subordinated debenture

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

51. _________ is issued with a very low coupon and sells significantly below its par value.
    (a) An income bond
    (b) A deep/zero coupon bond
    (c) A mortgage bond
    (d) A subordinated debenture

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

52. On _________, the stated interest rate is adjusted periodically within stated limits in response to changes in specified money or capital market rates.
    (a) a floating rate bond
    (b) a deep/zero discount bond
    (c) a mortgage bond
    (d) an equipment trust certificate

    Answer: A
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

53. _________ are commonly issued in the reorganization of a failed or failing firm.
    (a) Floating rate bonds
    (b) Income bonds
    (c) Mortgage bonds
    (d) Equipment trust certificates

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

54. _________ bonds are characterized by interest payments that are required only when earnings are available from which to make such payment.
   (a) Floating rate
   (b) Income
   (c) Mortgage
   (d) Junk

   Answer: B
   Level of Difficulty: 2
   Learning Goal: 3
   Topic: Bond Types

55. _________ are debt rated Ba or lower by Moody's or BB or lower by Standard & Poor's and are commonly used by rapidly growing firms to obtain growth capital, most often to finance mergers and takeovers of other firms, particularly during the 1980s.
   (a) Subordinated debentures
   (b) Mortgage bonds
   (c) Junk bonds
   (d) Equipment trust certificates

   Answer: C
   Level of Difficulty: 2
   Learning Goal: 3
   Topic: Bond Types

56. Convertible bonds are normally
   (a) debentures.
   (b) income bonds.
   (c) subordinated debentures.
   (d) mortgage bonds.

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 3
   Topic: Bond Types

57. A debenture is
   (a) a lengthy legal document stating the conditions under which a bond has been issued.
   (b) a secured bond that is secured by unspecified assets.
   (c) a bond secured by specific asset.
   (d) an unsecured bond that only creditworthy firms can issue.

   Answer: D
   Level of Difficulty: 2
   Learning Goal: 3
   Topic: Bond Types

58. _________ are secured by stock and/or bonds that are owned by the issuer.
    (a) Mortgage bonds
    (b) Equipment trust certificates
    (c) Collateral trust bonds
    (d) Subordinated debentures

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

59. _________ are bonds that have a short maturity, typically one to five years, and which can be redeemed or renewed for a similar period at the option of their holders.
    (a) Floating rate bonds
    (b) Extendible notes
    (c) Putable bonds
    (d) Junk bonds

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

60. Payment of interest required only when earnings are made available from which to make a payment is characteristic of a(n)
    (a) floating rate bond.
    (b) income bond.
    (c) mortgage bond.
    (d) equipment trust certificate.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Types

61. A feature that allows bondholders to change each bond into a stated number of shares of common stock is called
    (a) stock purchase warrants.
    (b) call feature.
    (c) conversion feature.
    (d) None of the above.

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

62. A feature that gives the issuer the opportunity to repurchase bonds at a stated price prior to maturity is called
    (a) stock purchase warrants.
    (b) call feature.
    (c) conversion feature.
    (d) None of the above.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

63. An instrument that give their holders the right to purchase a certain number of shares of the firm's common stock at a specified price over a certain period of time is called
    (a) stock purchase warrants.
    (b) call feature.
    (c) conversion feature.
    (d) None of the above.

    Answer: A
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Bond Features

64. The riskiness of publicly traded bond issues is rated by independent agencies. According to Moody's rating system, an Aaa bond and a Caa bond are _________ and _________, respectively.
    (a) speculative; investment grade
    (b) prime quality; medium grade
    (c) prime quality; speculative
    (d) medium grade; lowest grade

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Ratings

65. A putable bond gives the bondholder
    (a) the right to sell the bond back to the corporation at the original purchase price.
    (b) the right to sell the bond back to the corporation at a stated premium.
    (c) the right to sell the bond back to the corporation at the current market value.
    (d) the right to sell the bond back to the corporation at par.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

66. The significant portion of the return on a zero coupon bond is in the form of
    (a) interest and gain in value.
    (b) interest.
    (c) gain in value.
    (d) tax reduction.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

67. In utilizing a _________ the issuer can annually deduct the current year's interest accrual without having to actually pay the interest until the bond matures.
    (a) junk bond
    (b) zero coupon bond
    (c) floating rate bond
    (d) extendible notes

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

68. High-risk, high-yield junk bonds have declined in popularity during the early 1990s due to
    (a) the decline in mergers and takeovers, which these bonds were used to finance.
    (b) the declining need of growth capital.
    (c) the stabilizing of interest rates.
    (d) a number of major defaults on these bonds.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

69. _________ are claims that are not satisfied until those of the creditors holding certain (senior) debts have been fully satisfied.
    (a) Convertible debentures
    (b) Subordinated debentures
    (c) Mortgage bonds
    (d) Collateral trust bonds

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Bond Types

70. Bonds that can be redeemed at par at the option of their holders either at specific date after the date of issue and every 1 to 5 years thereafter or when and if the firm takes specified actions such as being acquired, acquiring another company, or issuing a large amount of additional debt are called
(a) zero coupon bonds.
(b) junk bonds.
(c) floating-rate bonds.
(d) putable bonds.

Answer: D
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

71. The decision to refund a callable bond
(a) should be made only if interest rates have increased.
(b) is a net working capital decision.
(c) is a capital budgeting decision.
(d) is a financing decision.

Answer: C
Level of Difficulty: 3
Learning Goal: 3
Topic: Bond Types

72. The process that links risk and return in order to determine the worth of an asset is termed
(a) evaluation.
(b) valuation.
(c) discounting.
(d) variable growth.

Answer: B
Level of Difficulty: 1
Learning Goal: 4
Topic: Valuation Fundamentals

73. A type of long-term financing used by both corporations and government entities is
(a) common stock.
(b) bonds.
(c) preferred stock.
(d) retained earnings.

Answer: B
Level of Difficulty: 1
Learning Goal: 4
Topic: Bond Basics

74. Bonds are
    (a) a series of short-term debt instruments.
    (b) a form of equity financing that pays interest.
    (c) long-term debt instruments.
    (d) a hybrid form of financing used to raise large sums of money from a diverse group of lenders.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 4
    Topic: Bond Basics

75. The less certain a cash flow, the _________ the risk, and the _________ the value of the cash flow.
    (a) lower; higher
    (b) lower; lower
    (c) higher; lower
    (d) higher; higher

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 4
    Topic: Valuation Fundamentals

76. _________ of all future cash flows an asset is expected to provide over a relevant time period is the value of the asset.
    (a) The future value
    (b) The present value
    (c) The stated value
    (d) The sum

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 4
    Topic: Valuation Fundamentals

77. The return expected from an asset is fully defined by its
    (a) risk and cash flow.
    (b) cash flow and timing.
    (c) discount rate.
    (d) beta.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 4
    Topic: Valuation Fundamentals

78. The key inputs to the valuation process include
(a) returns and risk.
(b) returns, timing, and risk.
(c) cash flows and discount rate.
(d) returns, discount rate, and risk.

Answer: B
Level of Difficulty: 3
Learning Goal: 4
Topic: Valuation Fundamentals

79. In the present value model, risk is generally incorporated into the
(a) cash flows.
(b) timing.
(c) discount rate.
(d) total value.

Answer: C
Level of Difficulty: 3
Learning Goal: 4
Topic: Valuation Fundamentals

80. The _________ value of a bond is also called its face value. Bonds which sell at less than face value are priced at a _________, while bonds which sell at greater than face value sell at a _________.
(a) discount; par; premium
(b) premium; discount; par
(c) par; discount; premium
(d) coupon; premium; discount

Answer: C
Level of Difficulty: 1
Learning Goal: 5
Topic: Bond Basics

81. Corporate bonds typically have
(a) a face value of $5,000.
(b) a market price of $1,000.
(c) a specified coupon rate paid annually.
(d) a par value of $1,000.

Answer: D
Level of Difficulty: 1
Learning Goal: 5
Topic: Bond Basics

82. The value of a bond is the present value of the
   (a) dividends and maturity value.
   (b) interest and dividend payments.
   (c) maturity value.
   (d) interest payments and maturity value.

   Answer: D
   Level of Difficulty: 2
   Learning Goal: 5
   Topic: Bond Pricing

83. When the required return is constant and equal to the coupon rate, the price of a bond as it approaches its maturity date will
   (a) remain constant.
   (b) increase.
   (c) decrease.
   (d) change depending on whether it is a discount or premium bond.

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 5
   Topic: Bond Pricing

84. The market price of outstanding issues often varies from par because
   (a) the maturity date has changed.
   (b) the coupon rate has changed.
   (c) the market rate of interest has changed.
   (d) old bonds sell for less than new bonds.

   Answer: C
   Level of Difficulty: 2
   Learning Goal: 5
   Topic: Bond Pricing

85. The price of a bond with a fixed coupon rate and the market required return have a relationship that is best described as
   (a) varying.
   (b) constant.
   (c) direct.
   (d) inverse.

   Answer: D
   Level of Difficulty: 2
   Learning Goal: 5
   Topic: Bond Pricing

86. If the required return is less than the coupon rate, a bond will sell at
    (a) par.
    (b) a discount.
    (c) a premium.
    (d) book value.

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Bond Pricing

87. When the required return is constant but different from the coupon rate, the price of a bond as it approaches its maturity date will
    (a) remain constant.
    (b) increase.
    (c) decrease.
    (d) approach par.

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Bond Pricing

88. If the required return is greater than the coupon rate, a bond will sell at
    (a) par.
    (b) a discount.
    (c) a premium.
    (d) book value.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Bond Pricing

89. The ABC company has two bonds outstanding that are the same except for the maturity date. Bond D matures in 4 years, while Bond E matures in 7 years. If the required return changes by 15 percent
    (a) Bond D will have a greater change in price.
    (b) Bond E will have a greater change in price.
    (c) the price of the bonds will be constant.
    (d) the price change for the bonds will be equal.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Bond Pricing

90. A firm has an issue of $1,000 par value bonds with a 12 percent stated interest rate outstanding. The issue pays interest annually and has 10 years remaining to its maturity date. If bonds of similar risk are currently earning 8 percent, the firm's bond will sell for _________ today.
    (a) $1,000
    (b) $805.20
    (c) $851.50
    (d) $1,268.20

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

91. When valuing a bond, the characteristics of the bond that remain fixed are all of the following EXCEPT the
    (a) coupon rate.
    (b) price.
    (c) face value.
    (d) interest payment.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing

92. A firm has an issue of $1,000 par value bonds with a 9 percent stated interest rate outstanding. The issue pays interest annually and has 20 years remaining to its maturity date. If bonds of similar risk are currently earning 11 percent, the firm's bond will sell for _________ today.
    (a) $1,000
    (b) $716.67
    (c) $840.67
    (d) $1,123.33

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

93. Hewitt Packing Company has an issue of $1,000 par value bonds with a 14 percent annual coupon interest rate. The issue has ten years remaining to the maturity date. Bonds of similar risk are currently selling to yield a 12 percent rate of return. The current value of each Hewitt bond is _________.
    (a) $791.00
    (b) $1,000
    (c) $1,052.24
    (d) $1,113.00

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

94. A bond will sell _________ when the stated rate of interest exceeds the required rate of return, _________ when the stated rate of interest is less than the required return, and _________ when the stated rate of interest is equal to the required return.

(a) at a premium; at a discount; equal to the par value
(b) at a premium; equal to the par value; at a discount
(c) at a discount; at a premium; equal to the par value
(d) equal to the par value; at a premium; at a discount

Answer: A
Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing

95. If a corporate bond is issued with a coupon rate that varies directly with the required return, the price of the bond will

(a) equal the face value.
(b) be less than the face value.
(c) be greater than the face value.
(d) be greater than or less than the face value depending on how interest rates vary.

Answer: A
Level of Difficulty: 4
Learning Goal: 5
Topic: Bond Pricing

96. Calculate the value of a $1,000 bond which has 10 years until maturity and pays quarterly interest at an annual coupon rate of 12 percent. The required return on similar-risk bonds is 20 percent.

(a) $656.77
(b) $835.45
(c) $845.66
(d) $2,201.08

Answer: A
Level of Difficulty: 4
Learning Goal: 5
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

97. Interest rate risk and the time to maturity have a relationship that is best characterized as

(a) constant.
(b) varying.
(c) direct.
(d) inverse.

Answer: C
Level of Difficulty: 1
Learning Goal: 6
Topic: Bond Pricing

98. For an investor who plans to purchase a bond maturing in one year, the primary consideration should be
   (a) interest rate risk.
   (b) changes in the risk of the issue.
   (c) yield to maturity.
   (d) coupon rate.

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 6
   Topic: Bond Pricing

99. The yield to maturity on a bond with a price equal to its par value will
   (a) be less than the coupon rate.
   (b) be more than the coupon rate.
   (c) always be equal to the coupon rate.
   (d) be more or less than the coupon rate depending on the required return.

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 6
   Topic: Yield to Maturity

100. What is the approximate yield to maturity for a $1,000 par value bond selling for $1,120 that matures in 6 years and pays 12 percent interest annually?
   (a) 8.5 percent
   (b) 9.4 percent
   (c) 12.0 percent
   (d) 13.2 percent

   Answer: B
   Level of Difficulty: 3
   Learning Goal: 6
   Topic: Yield to Maturity (Equation 6.7 and Equation 6.7a)

101. Mugwump Industries has issued a bond which has a $1,000 par value and a 15 percent annual coupon interest rate. The bond will mature in ten years and currently sells for $1,250. Using this information, the yield to maturity on Mugwump's bond is _________.
   (a) 10.79 percent
   (b) 11.39 percent
   (c) 12.19 percent
   (d) 13.29 percent

   Answer: A
   Level of Difficulty: 3
   Learning Goal: 6
   Topic: Yield to Maturity (Equation 6.7 and Equation 6.7a)

102. What is the yield to maturity, to the nearest percent, for the following bond: current price is $908, coupon rate is 11 percent, $1,000 par value, interest paid annually, eight years to maturity?
(a) 11 percent
(b) 12 percent
(c) 13 percent
(d) 14 percent

Answer: C
Level of Difficulty: 4
Learning Goal: 6
Topic: Yield to Maturity (Equation 6.7 and Equation 6.7a)

103. Al is trying to decide which of two bonds to buy. Bond H is a 10 percent coupon, 10-year maturity, $1,000 par, January 1, 2000 issue paying annual interest. Bond F is a 10 percent coupon, 10-year maturity, $1,000 par, January 1, 2000 issue paying semiannual interest. The market required return for each bond is 10 percent. When using present value to determine the prices of the bonds, Al will find that
(a) there is no difference in price.
(b) the price of F is greater than H.
(c) the price of H is greater than F.
(d) he needs more information before determining the prices.

Answer: A
Level of Difficulty: 4
Learning Goal: 6
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

104. What is the current price of a $1,000 par value bond maturing in 12 years with a coupon rate of 14 percent, paid semiannually, that has a YTM of 13 percent?
(a) $604
(b) $1,090
(c) $1,060
(d) $1,073

Answer: C
Level of Difficulty: 4
Learning Goal: 6
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

105. Nico Nelson, a management trainee at a large New York-based bank is trying to estimate the real rate of return expected by investors. He notes that the 3-month T-bill currently yields 3 percent and has decided to use the consumer price index as a proxy for expected inflation. What is the estimated real rate of interest if the CPI is currently 2 percent?
(a) 5%
(b) 1%
(c) 3%
(d) 2%

Answer: B
Level of Difficulty: 3
Learning Goal: 1
Topic: Real Rate of Interest (Equation 6.1)

106. Consider the following returns and yields: U.S. T-bill = 8%, 5-year U.S. T-note = 7%, IBM common stock = 15%, IBM AAA Corporate Bond = 12% and 10-year U.S. T-bond = 6%. Based on this information, the shape of the yield curve is
(a) upward sloping.
(b) downward sloping.
(c) flat.
(d) normal.

Answer: B
Level of Difficulty: 3
Learning Goal: 1
Topic: Term Structure of Interest Rates

107. What is the nominal rate of return on an IBM bond if the real rate of interest is 3 percent, the inflation risk premium is 2 percent, the U.S. T-bill rate is 5 percent, the maturity risk premium on the IBM bond is 3 percent, the default risk premium on the IBM bond is 2 percent, and the liquidity risk premium on the bond is 1 percent?
(a) 16%
(b) 13%
(c) 11%
(d) 9%

Answer: C
Level of Difficulty: 3
Learning Goal: 1
Topic: Nominal Rate of Interest

Table 6.1
Use the following information to answer questions #108 through #110.

Company	Coupon	Maturity	Last Price	Last Yield	EST Spread	EST UST	VOL. (000s)
Ford (F)	11.0	July 31, 2009	65.50	?	104	10	5,100

108. On this trading day, the number of McLeod bonds which changed hands was (Table 6.1)
(a) 5,100.
(b) 51,000.
(c) 510,000.
(d) 5,100,000.

Answer: D
Level of Difficulty: 2
Learning Goal: 3
Topic: Corporate Bond Quotes

109. Assume this bond's face value is $1,000. What is the bond's current market price (Table 6.1)?
(a) $65.00
(b) $655.00
(c) $650.00
(d) $6,550.00

Answer: B
Level of Difficulty: 2
Learning Goal: 3
Topic: Corporate Bond Quotes

110. What is the last yield for this bond (Table 6.1)?
(a) 11.0%
(b) 14.2%
(c) 16.8%
(d) 18.9%

Answer: C
Level of Difficulty: 2
Learning Goal: 3
Topic: Corporate Bond Quotes

111. Nico Corp issued bonds bearing a coupon rate of 12 percent, pay coupons semiannually, have 3 years remaining to maturity, and are currently priced at $940 per bond. What is the yield to maturity?
(a) 12.00%
(b) 13.99%
(c) 14.54%
(d) 15.25%

Answer: C
Level of Difficulty: 3
Learning Goal: 6
Topic: Semi-Annual Yield to Maturity (Equation 6.7 and Equation 6.7a)

112. Nico bought an investment one year ago and just calculated his return on investment. He found that his purchasing power had increased by 15 percent as a result of his investment. If inflation during the year was 4 percent, then Nico's _________.
(a) real return on investment is more than 15 percent
(b) nominal return on investment is more than 15 percent
(c) nominal return on investment is less than 11 percent
(d) real return on investment is equal to 4 percent

Answer: B
Level of Difficulty: 3
Learning Goal: 1
Topic: Semi-Annual Yield to Maturity (Equation 6.1 and Equation 6.2)

113. Jia Hua Enterprises wants to issue sixty 20-year, $1,000 par value, zero-coupon bonds. If each bond is priced to yield 7 percent, how much will Jia Hua receive (ignoring issuance costs) when the bonds are first sold?
(a) $11,212
(b) $12,393
(c) $15,505
(d) $18,880
(e) $20,000

Answer: C
Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

114. On January 1, 2002, Zheng Corporation will issue new bonds to finance its expansion plans. In its efforts to price the issue, Zheng Corporation has identified a company of similar risk with an outstanding bond issue that has an 8 percent coupon rate that is due January 1, 2017. This firm's bonds currently are selling for $1,091.96. If interest is paid semiannually for both bonds, what must the coupon rate of the new bonds be in order for the issue to sell at par?
(a) 5.75%
(b) 6.00%
(c) 6.50%
(d) 7.00%

Answer: D
Level of Difficulty: 4
Learning Goal: 5
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

■ Essay Questions

1. A record collector has agreed to sell her entire collection to a historical museum in three years at a price of $100,000. The current risk-free rate is 7 percent. At what price should she value her collection today?

Answer: $100,000(0.816) = $81,600

Level of Difficulty: 1
Learning Goal: 4
Topic: Valuation Fundamentals (Equation 6.5 and Equation 6.6)

2. A corporate financial analyst must calculate the value of an asset which produces year-end annual cash flows of $0 the first year, $2,000 the second year, $3,000 the third year, and $2,500 the fourth year. Assuming a discount rate of 15 percent, what is the value of this asset?

Answer: Using PVIF(15,n):

= $0(0.870) + $2,000(0.756) + $3,000(0.658) + $2,500(0.572)

= $0 + $1,512 + $1,974 + $1,430 = $4,916

Level of Difficulty: 2
Learning Goal: 4
Topic: Valuation Fundamentals (Equation 6.5 and Equation 6.6)

3. What is the value of an asset which pays $200 a year for the next 5 years and can be sold for $1,500 at the end of five years from now? Assume that the opportunity cost is 10 percent.

Answer: P = 200(PVIFA) + 1,500(PVIF)

= 200(3.791) + 1,500(0.621) = $1,689.70

Level of Difficulty: 3
Learning Goal: 4
Topic: Valuation Fundamentals (Equation 6.5 and Equation 6.6)

Table 6.2

Bond	Par Value ($)	Annual Coupon Interest Rate (%)	Years to Maturity	Required Return (%)
L	1000	9	5	6
M	100	10	8	10
N	500	18	17	15

4.

(a) Calculate the current value of Bond L. (See Table 6.2)
(b) What will happen to the value/price as the bond approaches maturity?

Answers:
(a) $90(4.212) + $1,000(0.747) = $1,126.08
(b) The bond price will decrease and come closer to par.

Level of Difficulty: 2
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

5. Calculate the current value of Bond M. (See Table 6.2)

Answer: Annual coupon interest rate = required rate of return

Therefore, value = par value = $100

Level of Difficulty: 2
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

6. Calculate the current value of Bond M if the time of maturity is six years. (See Table 6.2)

Answer: The bond is at par, or $100, because the annual coupon interest rate is equal to the required rate of return.

Level of Difficulty: 2
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

7.

(a) Calculate the current value of Bond N. (See Table 6.2)
(b) What will happen to value/price as the bond approaches maturity?

Answers:
(a) $90(6.047) + $500(0.093) = $590.73
(b) The bond price will decrease and come closer to par.

Level of Difficulty: 2
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

8. Hewitt Packing Company has an issue of $1,000 par value bonds with a 14 percent coupon interest rate outstanding. The issue pays interest semiannually and has 10 years remaining to its maturity date. Bonds of similar risk are currently selling to yield a 12 percent rate of return. What is the value of these Hewitt Packing Company bonds?

Answer: B = $70(11.470) + $1,000(.312) = $1,114.90

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

9. To expand its business, the Kingston Outlet factory would like to issue a bond with par value of \$1,000, coupon rate of 10 percent, and maturity of 10 years from now. What is the value of the bond if the required rate of return is 1) 8 percent, 2) 10 percent, and 3) 12 percent?

Answers: Coupon payment = $1{,}000 \times 0.10 = \$100$

1) $B = 100(PVIFA_{8\%,}10) + 1{,}000(PVIF_{8\%,}10)$

$= 100(6.710) + 1{,}000(0.463) = \$1{,}134.00$

2) B = \$1,000 since coupon rate and required rate of return are equal.

3) $B = 100(PVIFA_{12\%,}10) + 1{,}000(PVIF_{12\%,}10)$

$= 100(5.650) + 1{,}000(0.322) = \$887$

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

10. To finance a new line of product, the Westchester Company has issued \$1,000,000 bond with a par value of \$1,000, coupon rate of 8 percent, and maturity of 30 years. Compute the price of the bond if the opportunity cost is 11 percent.

Answer: Coupon payment = $1{,}000 \times 0.08 = \$80$

$B = 80(PVIFA_{11\%,}30) + 1{,}000(PVIF_{11\%,}30)$

$= 80(8.694) + 1{,}000(0.044) = \$739.52$

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

11. Peter has recently inherited \$10,000 and is considering purchasing 10 bonds of the Lucky Corporation. The bond has a par value of \$1,000 with 10 percent coupon rate and will mature in 10 years. Does Peter have enough money to buy 10 bonds if the required rate of return is 9 percent?

Answer: No. Since the required rate of return (9 percent) is less than the bond's coupon rate (10 percent), the bond's price is greater than its par value (\$1,000). Thus, the total price of 10 bonds is greater than \$10,000.

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.7 and Equation 6.7a)

12. Fancy Food, Inc. has issued a bond with par value of \$1,000, a coupon rate of 9 percent that is paid semi-annually, and that matures in 10 years. What is the value of the bond if the required rate of return is 12 percent?

Answer: Coupon payment = $1{,}000 \times 0.09 = \$90$

Semi-annual coupon payment = 90/2 \$45

$P = 45(PVIFA_{6\%,}20) + 1{,}000(PVIF_{6\%,}20)$

$= 45(11.470) + 1{,}000(0.312) = \$828.15$

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

13. The H&H Computer Company has an outstanding issue of bond with a par value of $1,000, paying 12 percent coupon rate semi-annually. The bond was issued 25 years ago and has 5 years to maturity. What is the value of the bond assuming 14 percent rate of interest?

Answer: Coupon payment = 1,000 × 0.12 = $120

Semi-annual coupon payment = 120/2 = $60

$P = 60(PVIFA_{7\%,}10) + 1{,}000(PVIF_{7\%,}10)$

$= 60(7.024) + 1{,}000(0.508) = \$929.44$

Level of Difficulty: 3
Learning Goal: 5
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

14. Dell Camping Equipment, Inc. just issued a 10 percent, 25-year bond with a $1,000 par value that pays interest semiannually.

(a) How much can the investor expect in annual interest (in dollars)?
(b) How much can the investor expect in interest every six months (in dollars)?
(c) How much can the investor expect in par value at the end of the 25th year?

Answers:

(a) $100
(b) $50
(c) $1,000

Level of Difficulty: 1
Learning Goal: 6
Topic: Bond Pricing (Equation 6.8 and Equation 6.8a)

15. Draw a graph of a typical Treasury yield curve and discuss why it usually takes that shape.

Answer: The student should draw a normal, upward-sloping yield curve as shown in the text. Factors impacting the shape of the yield curve are the risk free rate, the inflation premium, and the interest rate risk premium.

Level of Difficulty: 2
Learning Goal: 1
Topic: Term Structure of Interest Rates

16. Explain liquidity, default risk, and maturity risk premiums.

Answer: Liquidity problems exist in thinly traded bonds, default risk is the likelihood the corporation will default on its bond obligations, and the maturity premium reflects the fact that longer-term bonds possess greater interest rate risk and sensitivity than shorter term bonds.. If any of these exist, investors will demand to be compensated for the risk by demanding a yield premium to own the bonds.

Level of Difficulty: 3
Learning Goal: 2
Topic: Risk Premiums