Chapter 16
Hybrid and Derivative Securities

■ Learning Goals

1. Differentiate between hybrid and derivative securities and their roles in the corporation.
2. Review the types of leases, leasing arrangements, the lease-versus-purchase decision, the effects of leasing on future financing, and the advantages and disadvantages of leasing.
3. Describe the types of convertible securities, their general features and financing with convertibles.
4. Demonstrate the procedures for determining the straight bond value, conversion (or stock) value, and market value of a convertible bond.
5. Explain the key characteristics of stock-purchase warrants, the implied price of an attached warrant, and the values of warrants.
6. Define options and discuss the basics of calls and puts, options markets, options trading, the role of call and put options in fund raising, and using hedging foreign currency exposures with options.

■ True/False

1. Derivatives are used by corporations as a useful tool for managing certain aspects of the firm's risk.

   Answer: TRUE
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Derivative Basics

2. Options is a security that is neither debt nor equity but derives its value from an underlying asset that is often another security.

   Answer: TRUE
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Options

3. Preferred stock is considered a hybrid security because it blends the characteristics of both bond and equity.

   Answer: TRUE
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Preferred Stock

4. A direct lease is a lease under which the lessee sells an asset for cash to a prospective lessor and then leases back the same asset, making periodic payments for its use.

   Answer: FALSE
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Direct Leases

5. Leasing is considered a source of financing provided by the lessee to the lessor.

   Answer: FALSE
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Leasing Basics

6. If a lessee leases (under a financial lease) an asset that subsequently becomes obsolete, it can require the lessor to replace it with an equally productive asset in real term over the remaining term of the lease.

   Answer: FALSE
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Financial Leases

7. The lease arrangement has many more restrictive covenants than those normally included as part of a long-term loan.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 2
   Topic: Leasing Basics

8. An operating lease is noncancelable and obligates the lessee to make payments for the use of an asset over a predefined period of time.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 2
   Topic: Operating Leases

9. A financial lease is a cancelable contractual arrangement whereby the lessee agrees to make periodic payments to the lessor, often for five or fewer years, for an asset's services.

   Answer: FALSE
   Level of Difficulty: 2
   Learning Goal: 2
   Topic: Financial Leases

10. A leveraged lease is a lease under which the lessee sells an asset for cash to a prospective lessor and then leases back the same asset, making fixed periodic payments for its use.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Leveraged Leases

11. Leasing allows the lessee, in effect, to depreciate land, which is prohibited if the land were purchased.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Leasing Basics

12. At the end of the term of the lease agreement, the salvage value of an asset, if any, is realized by the lessee.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Leasing Basics

13. In a financial lease, the lessor must receive more than the asset's purchase price in order to earn its required return. However, in an operating lease, the total payments made by the lessee to the lessor are generally less than the lessor's initial cost of the leased asset.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Financial Leases

14. When a firm becomes bankrupt or is reorganized, the maximum claim of lessors against the corporation is three years of lease payments.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Leasing Basics

15. A capitalized lease is a financial lease that has the present value of all its payments included as an asset and corresponding liability on the firm's balance sheet.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Capitalized Leases

16. If a lease meets any of the FASB Standard No. 13 criteria, it should be shown as a capitalized lease, meaning the present value of all its payments should be included as an asset and corresponding liability on the firm's balance sheet.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Capitalized Leases

17. An operating lease need not be capitalized, but its basic features must be disclosed in a footnote to the financial statements.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Operating Leases

18. Since operating leases result in the receipt of services from an asset without increasing the assets or liabilities on the firm's balance sheet, leasing may result in misleading financial ratios.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Operating Leases

19. Conversion ratio is the ratio at which a convertible security can be exchanged for a nonconvertible security.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Capitalized Leases

20. The conversion feature permits the firm's capital structure to be changed without increasing the total financing.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Capitalized Feature

21. Diluted earnings per share (EPS) are found by adjusting basic EPS for the impact of converting all convertibles and exercising all warrants and options that would have diluting effects on the firm's earnings.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Diluted EPS

22. Convertibles can normally be sold with lower interest rates than non-convertibles.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Convertible Securities

23. By using convertible bonds, the issuing firm can temporarily raise debt, which is typically less expensive than common stock, to finance projects.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Convertible Bonds

24. The presence of contingent securities such as warrants and stock options affects the reporting of the firm's earnings per share.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Contingent Securities

25. Because a security is first sold with a conversion price above the current market price of the firm's stock, conversion is initially not attractive.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Conversion Price

26. The conversion ratio can be obtained by dividing the par value of the convertible by the conversion price.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Conversion Ratio

27. Convertibles can be used as a form of deferred common stock financing.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Convertible Securities

28. Since the conversion feature provides the purchaser of a convertible bond with the possibility of becoming a stockholder, convertible bonds are generally a less expensive form of financing than similar-risk nonconvertible or straight bonds.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Convertible Bonds

29. Conversion price is the value of a convertible security as measured by the market price of the common stock into which it can be converted.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Conversion Price

30. Since the purchaser of a convertible security is given an opportunity to become a common stockholder and to share in the firm's future success, convertibles can normally be sold with higher interest rates than nonconvertibles.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Convertibles versus Nonconvertibles

31. In case of an overhanging issue, if the firm were to call the issue, the bondholders would accept the call price rather than convert the bonds.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Overhanging Convertible Issue

32. A conversion feature is an option that is included as part of a common stock issue that allows its holder to change the stock into a stated number of shares of preferred stock.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Conversion Feature

33. One motive for issuing convertibles is that convertible securities can be issued with far fewer restrictive covenants than nonconvertibles.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Motives for Issuing Convertibles

34. Common stock equivalents are all contingent securities that derive a major portion of their value from their conversion privileges or common stock characteristics.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Common Stock Equivalents

35. An overhanging issue is a convertible security that cannot be forced into conversion by using the call feature.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Overhanging Convertible Issue

36. The conversion feature, which can be part of either a bond or preferred stock, permits the firm to raise additional funds at some point in the future by selling common stock, thereby shifting the company's capital structure to a less highly levered position.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Conversion Features

37. Converting a convertible security is beneficial when the market price of the common stock into which it can be converted is greater than its conversion price.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Conversion Features

38. When the market price of the common stock exceeds the conversion price, the conversion (or stock) value exceeds the par value of the convertible security.

    Answer: TRUE
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Conversion Value

39. The conversion value of a bond is the minimum price at which a convertible bond would be traded.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Conversion Value

40. The market premium may be defined as the amount by which the conversion value exceeds its straight value.

    Answer: FALSE
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Conversion Value

41. A stock-purchase warrant gives the holder the right to purchase a certain number of shares of common stock at a specified price over a certain period of time.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 5
    Topic: Stock Purchase Warrants

42. The exercise price or option price of a warrant is normally set below the market price of the firm's stock at the time of issuance.

    Answer: FALSE
    Level of Difficulty: 1
    Learning Goal: 5
    Topic: Features of Warrants

43. The stock-purchase warrant permits the firm to raise additional funds at some point in the future by selling common stock and thereby shifting the firm's capital structure to a less highly levered position.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Stock Purchase Warrants

44. The market value of a warrant is generally below the theoretical value of the warrant.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Value of Warrants

45. Contrary to convertibles, warrants provide for the injection of additional equity capital into the firm at some future date.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Features of Warrants

46. While, unlike convertible securities, warrants cannot be called, their limited life stimulates holders to exercise them when the exercise price is below the market price of the firm's stock.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Features of Warrants

47. In comparison to convertibles, the exercise of a warrant shifts the firm's capital structure to a less highly levered position.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Features of Warrants

48. Both warrants and rights result in new capital equity. However, warrants are issued at an exercise price below the prevailing market price of the stock; rights are generally issued at a subscription price above the prevailing market price.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Warrants versus Rights

49. The warrant premium depends largely on investor expectations and the ability of investors to get more leverage from the warrants than from the underlying stock.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Features of Warrants

50. The striking price is the price at which the holder of a call option can buy a specified amount of stock at any time prior to the option's expiration date.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Features of Warrants

51. The option buyer who expects a stock price to decline will purchase a put option.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Option Basics

52. Options are a special type of security that provides the holder with the right to purchase or sell specified assets at a stated price on or before a set expiration date.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Option Basics

53. Call option is an option to sell a specified number of shares of a stock on or before some future date at a stated price.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 6
Topic: Call Options

54. A hybrid security is neither debt nor equity but instead derives its value from an underlying asset.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 1
Topic: Hybrid Securities

55. A hybrid security is a form of debt or equity financing that possesses characteristics of both debt and equity.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 1
Topic: Hybrid Securities

56. A derivative security is neither debt nor equity but instead derives its value from an underlying asset.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 1
Topic: Derivative Securities

57. The lessee is the receiver of the services of the assets under a lease whereas a lessor is the owner of the assets that are being leased.

Answer: TRUE
Level of Difficulty: 1
Learning Goal: 1
Topic: Lessee versus Lessor

58. The lessor is the receiver of the services of the assets under a lease whereas a lessee is the owner of the assets that are being leased.

Answer: FALSE
Level of Difficulty: 1
Learning Goal: 1
Topic: Lessee versus Lessor

59. An operating lease is often also referred to as a capital lease.

Answer: FALSE
Level of Difficulty: 1
Learning Goal: 1
Topic: Operating Leases

60. A financial lease is often also referred to as a capital lease.

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 1
    Topic: Financial Leases

61. Maintenance clauses are provisions normally included in an operating lease that require the lessor to maintain the assets and to make insurance and tax payments.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Lease Maintenance Clauses

62. Renewal options normally require the lessor to maintain the assets and to make insurance and tax payments.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Lease Renewal Options

63. Renewal options are provisions normally included in an operating lease that grant the lessee the right to re-lease assets at the expiration of the lease.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Lease Renewal Options

64. Purchase options are provisions frequently included in both operating and financial leases that allow the lessee to purchase the leased asset at maturity.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Lease Purchase Options

65. Renewal options are provisions frequently included in both operating and financial leases that allow the lessee to purchase the leased asset at maturity.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Lease Renewal Options

66. One advantage of leasing is that in many cases, the return to the lessor is quite high so the firm in need of the asset might be better off borrowing to purchase it.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Advantage of Leasing

67. One disadvantage of leasing is that in many cases, the return to the lessor is quite high so the firm in need of the asset might be better off borrowing to purchase it.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 2
Topic: Disadvantage of Leasing

68. Contingent securities such as convertibles, warrants, and stock options affect the reporting of a firm's earnings per share (EPS).

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 3
Topic: Contingent Securities

69. Contingent securities such as common stocks and bonds affect the reporting of a firm's earnings per share (EPS).

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 3
Topic: Contingent Securities

70. In general, the market value of a convertible security is likely to be greater than its straight value or conversion value.

Answer: TRUE
Level of Difficulty: 2
Learning Goal: 4
Topic: Valuing Convertible Securities

71. In general, the market value of a convertible security is likely to be less than its straight value or conversion value.

Answer: FALSE
Level of Difficulty: 2
Learning Goal: 4
Topic: Valuing Convertible Securities

72. One of the major reasons for attaching a stock purchase warrant is that investors do not require the issuing firm to pay an interest rate as high as on a security that does not have an attached warrant.

Answer: TRUE
Level of Difficulty: 3
Learning Goal: 5
Topic: Stock Purchase Warrants

73. One of the major reasons for not attaching a warrant is that investors require the issuing firm to pay a higher interest rate if a warrant is attached than if it is not.

Answer: FALSE
Level of Difficulty: 3
Learning Goal: 5
Topic: Stock Purchase Warrants

74. Most stock purchase warrants are detachable, which means that the bondholders may sell the warrant without selling the security to which it is attached.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Stock Purchase Warrants

75. Most stock purchase warrants are non-detachable, which means that the bondholders must keep the warrants until they mature.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Stock Purchase Warrants

76. Call options are purchased with the expectation that the market price of the underlying security will rise while put options are purchased with the expectation that the market price of the underlying security will fall.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Call versus Put Options

77. Call options are purchased with the expectation that the market price of the underlying security will fall while put options are purchased with the expectation that the market price of the underlying security will rise.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Call versus Put Options

78. The dominant organized options exchange in which options are traded is the Chicago Board Options Exchange (CBOE).

    Answer: TRUE
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Options Markets

79. A firm can raise capital by issuing securities such as convertibles and warrants but a firm has nothing to do with the creation of options to raise capital.

    Answer: TRUE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Options Basics

80. A firm can raise capital by issuing securities such as convertibles, warrants, calls and puts.

    Answer: FALSE
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Options Basics

■ Multiple Choice Questions

1. The following securities are all popular hybrid securities EXCEPT
   (a) financial leases.
   (b) convertible securities.
   (c) options.
   (d) stock purchase warrants.

   Answer: C
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Hybrid Securities

2. A form of debt or equity financing that possesses characteristics of both debt and equity financing is called
   (a) hybrid security.
   (b) convertible security.
   (c) derivative security.
   (d) None of the above.

   Answer: A
   Level of Difficulty: 1
   Learning Goal: 1
   Topic: Hybrid Securities

3. _________ lease is a contractual arrangement whereby the lessee agrees to make periodic payments to the lessor for five or fewer years for an asset's services. This type of lease may also be canceled at the option of the lessee.
   (a) A financial
   (b) An operating
   (c) A capital
   (d) A direct

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Operating Leases

4. Assets leased under _________ leases generally have a usable life longer than the term of the lease.
   (a) financial
   (b) operating
   (c) capital
   (d) direct

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Operating Leases

5. A capital or capitalized lease is otherwise known as
   (a) an operating lease.
   (b) a financial lease.
   (c) a direct lease.
   (d) a leveraged lease.

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Financial Leases

6. A _________ is normally initiated by a firm that needs funds for operations. An asset previously owned by a lessee is sold to the lessor.
   (a) direct lease
   (b) leveraged lease
   (c) sale-leaseback
   (d) capital lease

   Answer: C
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Sale-Leaseback

7. In a _________, the lessor acts as an equity participant supplying part of the necessary capital while a lender supplies the remaining balance.
   (a) direct lease
   (b) leveraged lease
   (c) sale-leaseback
   (d) capital lease

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 2
   Topic: Leveraged Leases

8. _________ leases are noncancelable and are generally used for leasing land, buildings, and large pieces of fixed equipment.
   (a) Financial
   (b) Operating
   (c) Serial
   (d) Direct

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 2
   Topic: Financial Leases

9. The type of lease in which the lessor acquires or purchases the asset in order to lease to a given lessee is known as
   (a) a financial lease.
   (b) a direct lease.
   (c) an operating lease.
   (d) a leveraged lease.

   Answer: B
   Level of Difficulty: 2
   Learning Goal: 2
   Topic: Direct Leases

10. The total payments of _________ lease over the lease period are greater than the cost of the leased asset to the lessor.
   (a) a financial
   (b) an operating
   (c) a serial
   (d) a direct

   Answer: A
   Level of Difficulty: 3
   Learning Goal: 2
   Topic: Financial Leases

11. The consequences of missing a financial lease payment are _________ those of missing an interest or principal payment on debt.
   (a) less severe than
   (b) the same as
   (c) more severe than
   (d) unrelated to

   Answer: B
   Level of Difficulty: 3
   Learning Goal: 2
   Topic: Financial Leases

12. Advantages of leasing from the lessee's perspective include all of the following EXCEPT
   (a) capability of effectively depreciating land.
   (b) ability to avoid restrictive covenants that are normally part of a long-term loan.
   (c) benefit of the salvage value at the end of the term of the lease reverts to the lessor.
   (d) 100 percent financing.

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 2
   Topic: Advantages of Leasing

13. Disadvantages of leasing from the lessee's perspective include all of the following EXCEPT
    (a) the return to the lessor is quite high.
    (b) prohibition on leasehold improvements.
    (c) under a financial lease, an asset may subsequently become obsolete.
    (d) the maximum claim of the lessor in the event of bankruptcy is three years of lease payments.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Disadvantages of Leasing

14. All of the following must be considered when making a lease-versus-purchase decision EXCEPT
    (a) the after-tax cash flows for each year under the lease alternative.
    (b) the after-tax cash flows for each year under the purchase alternative.
    (c) the present value of all cash flows.
    (d) the depreciation expense under the lease.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 2
    Topic: Lease versus Purchase Decision

15. FASB Standard No. 13 establishes requirements for the explicit disclosure of certain types of lease obligations on the firm's balance sheet. To qualify as a capital lease, any of the following elements may be present EXCEPT
    (a) the lease transfers ownership of the property to the lessee by the end of the lease.
    (b) the lease contains an option to purchase the property at a "bargain" price.
    (c) the lease term is less than 75 percent of the economic life of the property.
    (d) at the beginning of the lease, the present value of the lease payment is equal to 90 percent or more of the fair market value of the leased property less any investment tax credit received by the lessor.

    Answer: C
    Level of Difficulty: 4
    Learning Goal: 2
    Topic: Accounting for Leases

16. FASB Standard No. 13 requires explicit disclosure of _________ obligation on the firm's balance sheet. For this type of lease, the present value for all of its payments is shown as an asset and the total lease payment obligation is included as a liability on the firm's balance sheet.
    (a) an operating lease
    (b) a leveraged lease
    (c) a sale-leaseback
    (d) a capital lease

    Answer: D
    Level of Difficulty: 4
    Learning Goal: 2
    Topic: Accounting for Leases

17. A security that is neither debt nor equity but derives its value from an underlying asset that is often another security is called
    (a) hybrid security.
    (b) convertible security.
    (c) derivative security.
    (d) None of the above.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Derivative Securities

18. A _________ is an option included as part of a bond or preferred stock that permits the holder to convert the security into a specified number of shares of common stock.
    (a) put option
    (b) stock-purchase warrant
    (c) conversion feature
    (d) repurchase agreement

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Conversion Feature

19. Convertible bonds normally have _________ to permit the issuer to retire or encourage conversion.
    (a) a put option
    (b) a call feature
    (c) a stock purchase warrant
    (d) a striking price

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Convertible Bonds

20. Convertible preferred stock is normally converted into
    (a) secured bonds.
    (b) debentures.
    (c) shares of common stock.
    (d) warrants.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Convertible Preferred Stocks

21. Convertible securities can usually be sold with interest rates _________ other nonconvertible securities.
    (a) lower than
    (b) equal to
    (c) higher than
    (d) with no relation to

    Answer: A
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Convertible Securities

22. A _________ allows the firm to force conversion.
    (a) warrant
    (b) option
    (c) call feature
    (d) striking price

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Call Features

23. A convertible security that cannot be forced into conversion using the call feature is
    (a) a general obligation bond.
    (b) a debenture.
    (c) an overhanging issue.
    (d) a noncallable common equity issue.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 3
    Topic: Overhanging Convertible Issues

24. Many holders of convertible bonds will not convert when the firm's common stock price exceeds the conversion price. To protect itself against this behavior, the firm includes a _________ on the convertible security.
    (a) warrant
    (b) option
    (c) call feature
    (d) striking price

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

25. The call price of the security generally _________ the security's par value.
    (a) is less than
    (b) is equal to
    (c) is greater than
    (d) has no relation to

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Call Price

26. The purchaser of a convertible issue sacrifices a portion of his or her interest return
    (a) to raise temporarily cheap funds.
    (b) due to the reduced risk of default.
    (c) when the call feature is exercised.
    (d) for the potential opportunity to become a common shareholder in the future.

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Convertible Securities

27. An advantage of a convertible security is that it provides for deferred common stock financing. The purpose of deferring the sale of common stock is to
    (a) increase the leverage of the firm.
    (b) dilute the ownership interest.
    (c) minimize dilution in earnings per share.
    (d) time the sale of common stock when the price per share is basing.

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Advantages of Convertibles

28. A convertible bond is almost always _________ with a call feature.
    (a) a mortgage bond
    (b) an income bond
    (c) an equipment trust certificate
    (d) a debenture

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Convertible Bonds

29. At the time of issuance, the issuer of a convertible security normally establishes a conversion price _________ the current market price of the firm's stock.
    (a) below
    (b) equal to
    (c) above
    (d) unrelated to

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 3
    Topic: Conversion Price

30. A _________ permits the firm's capital structure to be changed without increasing the total financing.
    (a) put option
    (b) stock-purchase warrant
    (c) conversion feature
    (d) repurchase agreement

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Conversion Features

31. Convertible bonds have all of the following characteristics EXCEPT
    (a) conversion increases the firm's debt ratio.
    (b) less expensive form of financing than straight bonds.
    (c) enhanced marketability.
    (d) a call feature.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Convertible Bonds

32. Convertible preferred stock and convertible bonds are normally convertible over _________, respectively.
    (a) a limited time period and an unlimited time period
    (b) an unlimited time period and a limited time period
    (c) a limited time period and a limited time period
    (d) an unlimited time period and an unlimited time period

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Convertible Preferred Stocks

33. When the price of the firm's common stock _________ the conversion price, the market price of the convertible security will normally _________ to a level close to its conversion value.
   (a) falls below; rise
   (b) rises above; fall
   (c) rises above; rise
   (d) equals; fall

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 3
   Topic: Convertible Securities

34. Many holders of convertible bonds will not convert when the firm's common stock price exceeds the conversion price because
   (a) the common stock price may go up further.
   (b) they already have the market price benefit and may still receive fixed periodic interest payments.
   (c) of the dilution of EPS.
   (d) interest payments are tax deductible.

   Answer: B
   Level of Difficulty: 3
   Learning Goal: 3
   Topic: Convertible Bonds

35. The call price of the security generally exceeds the security's par value by an amount equal to
   (a) one year's stated interest.
   (b) the straight bond value.
   (c) the market value of one share of common stock.
   (d) the market premium.

   Answer: A
   Level of Difficulty: 3
   Learning Goal: 3
   Topic: Call Price

36. The call privilege is generally not exercised until the conversion value of the security is _________ the call price.
   (a) 5 to 10 percent below
   (b) equal to
   (c) 10 to 15 percent above
   (d) 25 to 30 percent above

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 3
   Topic: Convertible Price

37. When a call is made on a convertible security, the holder of the security will most likely
    (a) not take any action.
    (b) allow the call to be exercised and accept the call premium.
    (c) convert the security into common stock.
    (d) sell the security in the secondary market.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Convertible Securities

38. The key motives for using convertible securities in the firm's financing mix include all of the following EXCEPT
    (a) a form of deferred stock financing.
    (b) a sweetener for financing.
    (c) a method of raising temporarily cheap funds.
    (d) an eventual shift in the capital structure to a more levered position.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Advantages of Convertible Securities

39. From the firm's point-of-view, the issuance of convertible bonds has all of the following advantages EXCEPT
    (a) a temporary source of cheap funds.
    (b) tax-deductible interest payments.
    (c) the deferred sale of common stock.
    (d) upon conversion, an increase in financial leverage.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 3
    Topic: Advantages of Convertible Bonds

40. The _________ value is the price the bond would sell for in the market without the conversion feature.
    (a) conversion
    (b) straight bond
    (c) striking price
    (d) market premium

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 4
    Topic: Straight Bond Value of Convertible Bonds

41. The straight bond value is the _________ price at which a convertible bond would be traded.
   (a) minimum
   (b) optimum
   (c) maximum
   (d) average

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 4
   Topic: Straight Bond Value of Convertible Bonds

42. The straight bond value is
   (a) the conversion premium minus the conversion value.
   (b) the stock value minus the present value of the interest payments.
   (c) the market value minus the conversion value.
   (d) the present value of the interest and principal payments discounted at a rate the firm would have to pay on a nonconvertible bond.

   Answer: D
   Level of Difficulty: 2
   Learning Goal: 4
   Topic: Straight Bond Value of Convertible Bonds

43. A firm has outstanding convertible preferred stock with a $50 par value which is convertible into three shares of common stock. The conversion value is $45. What is the current market price of a share of common stock?
   (a) $15.00
   (b) $16.67
   (c) $17.33
   (d) $20.00

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 4
   Topic: Conversion Value of Convertible Preferred Stocks

44. A firm has an outstanding bond with a $1,000 par value that is convertible at $40 per share of common stock. If the current market value of common stock per share is $45, the conversion value of the bond is
   (a) $880.
   (b) $1,000.
   (c) $1,125.
   (d) $1,200.

   Answer: C
   Level of Difficulty: 3
   Learning Goal: 4
   Topic: Conversion Value of Convertible Bonds

45. A firm has an outstanding bond with a $1,000 par value that is convertible into 50 shares of common stock. The bond's conversion ratio is
    (a) 20.
    (b) 25.
    (c) 50.
    (d) 100.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Conversion Ratio of Convertible Bonds

46. A firm has an outstanding bond with a $1,000 par value that is convertible into 50 shares of common stock. The bond's conversion price per share is
    (a) $20.
    (b) $25.
    (c) $50.
    (d) $100.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Conversion Price of Convertible Bonds

47. A firm has an outstanding bond with a $1,000 par value that is convertible at $40 per share of common stock. The bond's conversion ratio is
    (a) 20.
    (b) 25.
    (c) 40.
    (d) 50.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Conversion Ratio of Convertible Bonds

48. The market value of a convertible bond will exceed the conversion value or straight bond value, whichever is greater, by an amount called the market premium. This premium exists because
    (a) markets are efficient.
    (b) buyers and sellers do not usually agree on the conversion value.
    (c) purchasers expect future stock price movements to be positive.
    (d) the straight bond value is close to the conversion value.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 4
    Topic: Analyzing Convertible Bonds

49. A firm has an outstanding 15-year convertible bond issue with a $1,000 par value and a stated annual interest rate of 7 percent. The bond is convertible into 50 shares of common stock which has a current market price of $25. A straight bond could have been sold with a 10 percent stated interest rate. The straight value of the bond is
   (a) $1,328.
   (b) $1,250.
   (c) $1,000.
   (d) $771.

   Answer: D
   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Straight Bond Value of Convertible Bonds

50. A firm currently has outstanding a 9 percent, $1,000 convertible bond. The bond is convertible into 100 shares of common stock at a conversion price of $10 per share and callable at $1,090. The current market price of the firm's stock is $12 per share. The bond holder will most likely
   (a) allow the call to be exercised realizing $90 over par value.
   (b) convert the bond into stock realizing $200 over par value.
   (c) convert the bond into stock realizing only par value.
   (d) do nothing and wait until the stock price goes up further.

   Answer: B
   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Analyzing Convertible Bonds

51. A firm currently has outstanding a 5 percent, $1,000 convertible bond. The bond is convertible into 25 shares of common stock and callable at $1,050. The current market price of the firm's stock is $41 per share. The bond holder will most likely
   (a) allow the call to be exercised.
   (b) convert the bond into stock.
   (c) sell the bond on the secondary market.
   (d) do nothing and wait until the stock price goes up further.

   Answer: A
   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Analyzing Convertible Bonds

52. A firm has an outstanding 15-year convertible bond issue with a $1,000 par value and a stated annual interest rate of 7 percent. The bond is convertible into 50 shares of common stock which has a current market price of $15. A straight bond could have been sold with a 10 percent stated interest rate. The market value of the bond is
   (a) $750.
   (b) $771 at the minimum.
   (c) $1,250 at the minimum.
   (d) $1,000.

   Answer: B
   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Analyzing Convertible Bonds

53. A firm has an outstanding 15-year convertible bond issue with a $1,000 par value and a stated annual interest rate of 7 percent. The bond is convertible into 50 shares of common stock which has a current market price of $25. A straight bond could have been sold with a 10 percent stated interest rate. The conversion value of the bond is

(a) $1,328.
(b) $1,250.
(c) $1,000.
(d) $771.

Answer: B
Level of Difficulty: 4
Learning Goal: 4
Topic: Analyzing Convertible Bonds

54. A firm needs $2 million of new long-term financing. The firm is considering the sale of common stock or a convertible bond. The current market price of the common stock is $42 per share. To sell this new issue, the stock would have to be underpriced by $2 and sold for $40 per share. The firm currently has 300,000 shares of common stock outstanding. The alternative is to issue 20-year, 10 percent, and $1,000 par-value convertible bonds. The conversion price would be set at $50 per share, and the bond could be sold at par. The earnings for the firm are expected to be $500,000 in the coming year. Assuming the firm chooses the sale of common stock, the earnings per share in the coming year will be _________.

(a) $1.43
(b) $1.44
(c) $1.45
(d) $1.47

Answer: A
Level of Difficulty: 4
Learning Goal: 4
Topic: Analyzing Convertible Bonds

55. A firm needs $5 million of new long-term financing. The firm is considering the sale of common stock or a convertible bond. The current market price of the common stock is $65 per share. To sell this new issue, the stock would have to be underpriced by $2 and sold for $63 per share. The firm currently has 600,000 shares of common stock outstanding. The alternative is to issue 20-year, 10 percent, and $1,000 par-value convertible bonds. The conversion price would be set at $73 per share, and the bond could be sold at par. The earnings for the firm are expected to be $4,000,000 in the coming year. Assuming the firm chooses the convertible bond, the earnings per share after all bonds are converted will be _________.

(a) $6.67
(b) $5.98
(c) $5.91
(d) $5.88

Answer: B
Level of Difficulty: 4
Learning Goal: 4
Topic: Analyzing Convertible Bonds

56. A firm needs $1.5 million of new long-term financing. The firm is considering the sale of common stock or a convertible bond. The current market price of the common stock is $16 per share. To sell this new issue, the stock would have to be underpriced by $1 and sold for $15 per share. The firm currently has 600,000 shares of common stock outstanding. The alternative is to issue 30-year, 8 percent, and $1,000 par-value convertible bonds. The conversion price would be set at $20 per share, and the bond could be sold at par. The earnings for the firm are expected to be $700,000 in the coming year. Which plan results in less dilution of the earnings per share?
   (a) The common stock with an EPS of $1.17.
   (b) The convertible bond with an EPS of $1.04.
   (c) The common stock with an EPS of $1.00.
   (d) The convertible bond with an EPS of $1.00.

   Answer: B
   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Issuing Common Stock versus Convertible Bonds

57. A _________ gives the holder an option to purchase a certain number of shares of common stock at a specified price over a certain period of time.
   (a) put option
   (b) convertible bond
   (c) stock-purchase warrant
   (d) repurchase agreement

   Answer: C
   Level of Difficulty: 1
   Learning Goal: 5
   Topic: Stock Purchase Warrants

58. The majority of actively traded warrants are listed on the
   (a) over-the-counter exchange.
   (b) American Stock Exchange.
   (c) New York Stock Exchange.
   (d) NASDAQ.

   Answer: B
   Level of Difficulty: 1
   Learning Goal: 5
   Topic: Trading Warrants

59. The exercise price or option price of a warrant is normally set _________ the market price of the firm's stock at the time of issuance.
   (a) below
   (b) equal to
   (c) above
   (d) with respect to

   Answer: C
   Level of Difficulty: 2
   Learning Goal: 5
   Topic: Characteristics of Warrants

60. The basic characteristics of warrants include all of the following EXCEPT it
    (a) acts as a sweetener in financing.
    (b) is detachable.
    (c) lowers the required interest rate.
    (d) has an exercise period shorter than one month.

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: Characteristics of Warrants

61. When warrants are used as "sweeteners" by a new firm, the firm is essentially allowing creditors to
    (a) vote along with common stockholders.
    (b) share in the possible future success of the firm.
    (c) protect their interest.
    (d) receive extra income.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 5
    Topic: The Use of Warrants

62. A _________ permits the firm to raise additional funds at some point in the future by selling common stock and thereby shifting the firm's capital structure to a less highly levered position.
    (a) put option
    (b) stock-purchase warrant
    (c) conversion feature
    (d) repurchase agreement

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Characteristics of Warrants

63. The similarities of a right and a warrant include all of the following EXCEPT
    (a) they both give the holder an option to acquire a certain number of shares of common stock at a specified price.
    (b) they both result in new equity capital for the firm.
    (c) they are both issued with exercise or subscription prices below the prevailing market price of stock.
    (d) they both may be traded independently from the security to which they were attached.

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Rights versus Warrants

64. The effect of exercising a warrant on the firm's capital structure reduces leverage _________ converting a convertible security.
    (a) less than
    (b) as much as
    (c) more than
    (d) without relationship to

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Characteristics of Warrants

65. A firm has outstanding warrants that are exercisable at $53 per share and entitle holders to purchase two shares of common stock. The common stock is currently selling for $55 per share. The theoretical value of the warrant is
    (a) $1.
    (b) $2.
    (c) $3.
    (d) $4.

    Answer: D
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Valuing Warrants (Equation 16.2)

66. The market value of a warrant is generally _________ the theoretical value of the warrant.
    (a) below
    (b) equal to
    (c) above
    (d) not related to

    Answer: C
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Valuing Warrants

67. An investor has $1,000 that she is interested in investing in ABC stock, which is currently selling for $10 per share. ABC's warrants are selling for $7 per warrant. Each warrant entitles the holder to purchase three shares of ABC's common stock for $8 per share. The warrant premium is
    (a) $1.
    (b) $2.
    (c) $3.
    (d) $4.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Valuing Warrants (Equation 16.1)

68. When warrants are exercised,
    (a) only the number of common shares outstanding increases.
    (b) debt is reduced.
    (c) debt is reduced while common equity increases.
    (d) there is no effect on the firm's capital structure.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Characteristics of Warrants

69. As the price of the underlying stock rises above the exercise price of a warrant, the investor's ability to earn larger potential return diminishes. Therefore, the warrant premium will
    (a) increase.
    (b) decrease.
    (c) remain unchanged.
    (d) double.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 5
    Topic: Valuing Warrants

70. All of the following are true of stock-purchase warrants EXCEPT
    (a) when a firm makes a large issue of debt, the attachment of stock-purchase warrants may add to the marketability of the issue.
    (b) warrants are similar to conversion features on debt.
    (c) suppliers of debt are more likely to require warrants on an issue of debt from an existing corporation than from a new firm.
    (d) the attachment of warrants may lower the required interest rate.

    Answer: C
    Level of Difficulty: 4
    Learning Goal: 5
    Topic: Characteristics of Warrants

71. A warrant is attached to a $1,000 par, 10 percent, 10-year bond, paying annual interest and having 20 warrants attached for the purchase of the firm's stock. The bonds were initially sold for $1,200. When issued, similar risk, straight bonds were selling at a 14 percent rate of return. The implied price of the warrant is
    (a) $10.40.
    (b) $20.40.
    (c) $10.00.
    (d) $20.00.

    Answer: B
    Level of Difficulty: 4
    Learning Goal: 5
    Topic: Valuing Warrants (Equation 16.1)

72. The dominant organized options exchange is the
    (a) over-the-counter exchange.
    (b) Chicago Board Options Exchange.
    (c) American Stock Exchange.
    (d) New York Stock Exchange.

    Answer: B
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Options Markets

73. The option buyer who expects a stock price to decline will purchase
    (a) a call.
    (b) a warrant.
    (c) a put.
    (d) a convertible bond.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Put Options

74. For puts and calls, the exercise price is called
    (a) the expected value.
    (b) the market price.
    (c) the striking price.
    (d) the option price.

    Answer: C
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Characteristics of Options

75. In the financial statement of the firm, puts and calls
    (a) determine cash management policy.
    (b) influence the capital structure decision.
    (c) affect bond quality.
    (d) have no influence.

    Answer: D
    Level of Difficulty: 1
    Learning Goal: 6
    Topic: Characteristics of Options

76. A _________ option is an option to purchase a specified number of shares of a stock on or before some future date at a specified price, whereas a _________ option is an option to sell a specified number of shares of a stock on or before some future date at a specified price. _________ are purchased if the stock price is expected to fall.
    (a) put; call; Puts
    (b) call; put; Puts
    (c) put; call; Calls
    (d) call; put; Calls

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Characteristics of Options

77. The available options of the firm with an overhanging issue to finance the call include all of the following EXCEPT
    (a) selling additional debt resulting in a higher debt ratio.
    (b) using current retained earnings.
    (c) selling additional common equity resulting in less dilution of EPS.
    (d) selling additional preferred stock resulting in higher financial leverage.

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 6
    Topic: Characteristics of Options

78. All of the following are true of calls and puts EXCEPT
    (a) options are issued by businesses.
    (b) the presence of options trading in the firm's stock could, by increasing trading activity, stabilize the firm's share price in the marketplace.
    (c) options are not a source of funding to the corporation.
    (d) the financial manager of a corporation has very little need to deal with options.

    Answer: A
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Characteristics of Options

79. Which of the following statements about put and call options is false?
    (a) They are traded on organized exchanges.
    (b) They are a form of deferred equity financing by the firm.
    (c) They can be used to lock in a gain or prevent a loss on a stock holding.
    (d) They provide the buyer with an opportunity to earn larger returns than simply buying or selling common stock.

    Answer: B
    Level of Difficulty: 3
    Learning Goal: 6
    Topic: Characteristics of Options

80. An investor is considering buying 500 shares of ABC Company at $32 per share. Analysts agree that the firm's stock price may increase to $45 per share in the next 4 months. As an alternative, the investor could purchase a 120-day call option at a striking price of $30 for $5,000. At what stock price would the investor break even?
   (a) $35.
   (b) $40.
   (c) $42.
   (d) $45.

   Answer: B
   Level of Difficulty: 4
   Learning Goal: 6
   Topic: Valuing Options

81. An investor is considering buying 500 shares of ABC Company at $32 per share. Analysts agree that the firm's stock price may increase to $45 per share in the next four months. As an alternative, the investor could purchase a 120-day call option at a striking price of $30 for $5,000. What profit would the investor realize if the stock price increased to $42 per share?
   (a) $0
   (b) $1,000
   (c) $4,000
   (d) $6,000

   Answer: B
   Level of Difficulty: 4
   Learning Goal: 6
   Topic: Valuing Options

82. A form of debt or equity financing that possesses characteristics of both is called a(n)
   (a) derivative security.
   (b) hybrid security.
   (c) option.
   (d) operating lease.

   Answer: B
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Hybrid Securities

83. A security that is neither debt nor equity but derives its value from an underlying asset is called a(n)
   (a) derivative security.
   (b) hybrid security.
   (c) option.
   (d) operating lease.

   Answer: A
   Level of Difficulty: 2
   Learning Goal: 1
   Topic: Derivative Securities

84. A cancelable contractual arrangement whereby the lessee agrees to make periodic payments to the lessor, often for 5 or fewer years, to obtain an asset's services is called a(n)
    (a) operating lease.
    (b) financial lease.
    (c) capital lease.
    (d) direct lease.

    Answer: A
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Operating Leases

85. A noncancelable arrangement that requires the lessee to make payments for the use of an asset over a relatively long period of time is called a(n)
    (a) operating lease.
    (b) financial lease.
    (c) sale-leaseback arrangement.
    (d) direct lease.

    Answer: B
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Financial Leases

86. A lease under which a lessor owns or acquires the assets that are leased to a given lessee is called a(n)
    (a) operating lease.
    (b) financial lease.
    (c) sale-leaseback arrangement.
    (d) direct lease.

    Answer: D
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Direct Leases

87. A lease under which a lessee sells an asset for cash to a prospective lessor and then leases back the same asset is called a(n)
    (a) operating lease.
    (b) leveraged lease.
    (c) sale-leaseback arrangement.
    (d) direct lease.

    Answer: C
    Level of Difficulty: 2
    Learning Goal: 2
    Topic: Sale-Leaseback Arrangements

88. A lease under which a lessor acts as an equity participant supplying only about 20 percent of the cost of the asset, while a lender supplies the balance is called a(n)
(a) operating lease.
(b) leveraged lease.
(c) sale-leaseback arrangement.
(d) direct lease.

Answer: B
Level of Difficulty: 2
Learning Goal: 2
Topic: Leveraged Leases

89. Tangshan Mining Company has an outstanding issue of convertible bonds with a $1,000 par value. The bonds have a 10 percent coupon rate, have a 10-year maturity, and are convertible into 100 shares of common stock. The yield to maturity on bonds of similar risk is 10 percent. Based on this information, the straight bond value of the bond is
(a) $1,000.00.
(b) $978.39.
(c) $1,087.36.
(d) none of the above.

Answer: A
Level of Difficulty: 3
Learning Goal: 4
Topic: Straight Bond Value of a Convertible Bond

90. Tangshan Mining Company has an outstanding issue of convertible bonds with a $1,000 par value. The bonds have a 10 percent coupon rate, have a 10-year maturity, and are convertible into 100 shares of common stock. The yield to maturity on bonds of similar risk is 10 percent and the market price of the firm's common stock is currently $15.00. Based on this information, the conversion value of the bond is
(a) $1,000.00.
(b) $1,500.00.
(c) $750.00.
(d) none of the above.

Answer: B
Level of Difficulty: 3
Learning Goal: 4
Topic: Conversion Value of a Convertible Bond

■ Essay Questions

1. Gentry Riding Equipment Company has entered into two lease arrangements. One lease is an operating lease on an office copier requiring annual lease payments of $2,000 for the next three years. The other lease is a 15-year financial lease on a building requiring annual lease payments of $150,000. If the firm's discount rate is 10 percent, how should each lease be presented on the firm's balance sheet?

Answer: Operating lease: The basic features such as the annual lease payment and the term of the lease should be disclosed in a footnote.

Financial lease: The building will be listed as an asset with a value of: \$150,000(7.606) = \$1,140,900. There will also be a corresponding liability on the balance sheet.

Level of Difficulty: 3
Learning Goal: 2
Topic: Operating Leases versus Financial Leases

2. Hittel, Inc. is considering leasing or purchasing a small aircraft to transport executives between manufacturing facilities and the main administrative headquarters. The firm is in the 40 percent tax bracket and its after-tax cost of debt is 7 percent. The estimated after-tax cash flows for the lease and purchase alternatives are given below:

	Cash Flows (after-tax)	
End of Year	**Lease**	**Purchase**
1	–64,329	–68,454
2	–64,329	–59,110
3	–64,329	–63,596
4	–64,329	–66,633
5	64,329	30,056

(a) Given the above cash outflows for each alternative, calculate the present value of the after-tax cash flows using the after-tax cost of debt for each alternative.
(b) Which alternative do you recommend? Why?

Answers:

(a)

PV of leasing		
CF1–4	(\$64,329)	× 3.387 = (\$217,882)
CF5	64,329	× 0.713 = 45,867
		(\$172,015)
PV of purchase		
CF1	(\$68,454)	× 0.935 = (\$64,004)
CF2	(\$59,110)	× 0.873 = (\$51,603)
CF3	(\$63,596)	× 0.816 = (\$51,894)
CF4	(\$66,633)	× 0.763 = (\$50,841)
CF5	\$30,056	× 0.713 = \$21,430
		(\$196,912)

(b) The firm should lease the aircraft.

Level of Difficulty: 4
Learning Goal: 2
Topic: Lease versus Buy Analysis

3. Find the solution to the following questions regarding convertible bonds.

(a) Calculate the conversion price for each of the following bonds.

A $1,000-par-value bond convertible into 25 shares of common stock.

A $1,000-par value bond convertible into 100 shares of common stock.

(b) Calculate the conversion ratio for each of the following bonds. A $1,000 par-value bond convertible into common stock at $50 per share.

A $1,000 par-value bond convertible into common stock at $40 per share.

(c) Calculate the stock value for each of the following convertible bonds.

A $1,000 par-value bond convertible into common stock at $25 per share. The current market price of the stock is $30 per share.

A $1,000 par-value bond convertible into 100 shares of common stock. The current market price of the stock is $12 per share.

Answers:

(a) (1) 1,000/25 = $40
(2) 1,000/100 = $10

(b) (1) 1,000/50 = 20
(2) 1,000/40 = 25

(c) (1) (1,000/25) × 30 = $1,200
(2) (1,000/100) × 12 = $1,200

Level of Difficulty: 3
Learning Goal: 3
Topic: Analyzing Convertible Bonds

4. Marks-Write Pen Company has an outstanding issue of convertible bonds with a $1,000 par value. These bonds are convertible into 50 shares of common stock. They have a 10 percent coupon and a 10-year maturity. The interest rate on a straight bond of similar risk is 8 percent.

(a) Calculate the straight bond value of the bond.

(b) Calculate the conversion value of the bond when the market price of the stock is $30/share.

(c) What is the least you would expect the bond to sell for at a market price of common stock of $18/share?

Answers:

(a) B = $100(6.710) + $1,000(0.463) = $1,134

(b) 50 × $30/share = $1,500

(c) $1,134, the straight value of the bond is the minimum value of the bond regardless of the price of the common stock.

Level of Difficulty: 3
Learning Goal: 4
Topic: Analyzing Convertible Bonds

5. Sun & Fun Sports Equipment must decide whether to obtain $1,000,000 of financing by selling common stock at its current price of $40 per share or selling convertible bonds. The firm currently has 250,000 shares of common stock outstanding. Convertible bonds can be sold for their $1,000 par value and would be convertible at $45. The firm expects its earnings available to common stockholders to be $700,000 each year over the next several years.

   (a) Calculate the number of shares the firm would need to sell to raise the $1,000,000.
   (b) Calculate the earnings per share resulting from the sale of common stock.
   (c) Calculate the number of shares outstanding once all bonds have been converted.
   (d) Calculate the earnings per share associated with the bond financing after conversion.
   (e) Which of the financing alternatives would you recommend the company adopt? Why?

   Answers: (a) 1,000,000/40 = 25,000 shares

   (b) 700,000/(250,000 + 25,000) = $2.55 EPS

   (c) 1,000,000/1,000 = 1,000 bonds
   1,000/45 = 22.222 shares
   1,000 bonds × 22.222 shares = 22,222 shares
   250,000 + 22,222 = 272,222 shares outstanding

   (d) 700,000/(250,000 + 22,222) = $2.57 EPS

   (e) Since the convertible bond issue results in less dilution and higher EPS (although the EPS are very close), it is therefore recommended. The risk of an overhanging issue should be considered since the marginal increase in EPS is slight.

   Level of Difficulty: 4
   Learning Goal: 4
   Topic: Analyzing Convertible Bonds

6. A warrant is attached to a $1,000 par, 10 percent, 15-year bond, paying annual interest and having 10 warrants attached for the purchase of the firm's stock. The bonds were initially sold for $1,020. When issued similar risk straight bonds were selling to yield a 12 percent rate of return. Calculate the implied price of the warrant.

   Answer: ($1,000 × 0.183) + ($100 × 6.811) = $864
   $1,020 – $864 = $156
   The implied price of the warrant is $156/10 = $15.60

   Level of Difficulty: 3
   Learning Goal: 5
   Topic: Analyzing Warrants

7. Goldie's Pet Store has warrants that allow the purchase of two shares of its outstanding common stock at $30 per share. The common stock price per share is $33 and the market value of the warrant is $8.

(a) Calculate the theoretical value of the warrant.

(b) Calculate the market premium for the warrant.

Answers:

(a) $(33 - 30) \times 2 = \$6$

(b) $8 - 6 = \$2$

Level of Difficulty: 4
Learning Goal: 5
Topic: Analyzing Warrants

8. Consider the following options data:

Option	Cost of Option	Striking Price per Share	Current Market Value of Underlying Stock
Call (100 shares)	$200	$25	$30
Warrant (1 warrant may purchase 3 shares of stock)	6	40	46
Put (100 shares)	$250	$50	$45

(a) Determine the amount of profit or loss associated with each option, ignoring brokerage fees.

(b) Differentiate a warrant from a right.

Answers:

(a) Call $(30 - 25) \times 100$ shares $- 200 = \$300$ profit.
Warrant $(46 - 40) \times 3$ shares $= \$18$ TVW.
$\$18 - \$6 = \$12$/warrant profit
Put $250/100 = \$2.50$
$50 - 2.50 = 47.5 - 45 = 2.50\ (100) = \$250$
Profit is $250.

(b) Stock purchase warrants give their holders the option to purchase a certain number of shares of common stock at a specified price. Warrants are quite similar to stock rights in that they result in new equity capital. The right provides for the maintenance of pro rata ownership by existing owners, while the warrant has no such feature; rather, the warrant is generally used to make other forms of financing more attractive. The life of a right is typically only one or two months, whereas a warrant is generally exercisable for a period of years. Also, rights are issued at an exercise price below the prevailing market price of stock, while warrants are issued above the prevailing price. Warrants are often attached to debt or preferred stock issues as sweeteners or may be used as compensation in a merger.

Level of Difficulty: 4
Learning Goal: 6
Topic: Analyzing Options, Warrants, and Rights

9. Nico Yong is considering the purchase of 100 shares of Cisco Systems stock at $22 per share. Because the economy is picking up, Nico believes the demand for Oracle's router systems will increase substantially causing the price of Cisco's shares to increase to $30 per share. As an alternative, Nico is considering the purchase of a call option for 100 shares of Cisco at with an exercise price of $25. This 180 day option will cost Nico $200. Assume no brokerage costs or dividends.
   (a) What will Nico's profit be on the stock transaction if he decides to buy the stock and its price does increase to $30 per share and he sells?
   (b) How much will Nico earn on the option transaction if he purchases the option and the underlying stock price rises to $30?
   (c) How much must the stock price rise for Nico to break even on the option transaction?
   (d) Based on parts (a) and (b) above, what should Nico do? Explain.

Answers:

(a) If Nico purchases the stock at $22 and sells at $30, he will earn a profit of $8 per share or $800 total.

(b) If Nico were to purchase the option rather than the underlying stock, Nico would be able to sell the stock for $3,000 (100 shares × $30 per share) after purchasing the stock for $2,500 (100 shares × $25 per share) earning a gross profit of $500 on the transaction. Of course, Nico has to consider that the option originally cost him $200. Therefore, Nico's profit is only $300.

(c) To break even on the option transaction, the stock price would have to rise to $27 per share.

(d) Based on parts (a) and (b) above, Nico should buy the stock rather than the option.

Level of Difficulty: 3
Learning Goal: 6
Topic: Analyzing Call Options