Financial Markets and Products

1. Eric sold a call option on a stock trading at $40 and having a strike of $35 for $7. What is the profit of the Eric from the transaction if at expiry the stock is trading at $38?
   a) $3
   b) $4
   c) $5
   d) $7

2. Which of the following instruments has limited profit and limited loss potential?
   a) Call option contract
   b) Put option contract
   c) Forward contract
   d) Futures contract

3. Jim had $50,000 in his account. He invested in a stock trading at $40.The at the money call option was trading at $4 at that time. How many times profit would he have earned if he would have invested in call option rather than stock? Assume that at expiry, the stock was trading at $50.
   a) 2 times
   b) 3 times
   c) 6 times
   d) 10 times

4. Which of the following statements is least accurate about futures contract?
   a) The exchange stipulates the quality of good that will be acceptable for settling the contract
   b) The exchange sets the maximum price movement for a contract during a day
   c) The exchange determines how the price of a contract will be quoted
   d) The exchange sets a maximum number of contract that a hedger may hold

5. An investor has entered into a forward contract of gold. He has taken a long position. Each contract has 100 ounces. He entered the position at $875.6 per ounce. The initial margin requirement was $3,000 and the maintenance margin is $2,000. The futures price climbs to $887.4 next day. What is the variance margin needed for the position?
   a) $1,280
   b) $1,180
   c) $180
   d) 0

6. Tim has entered into a long position at $25 for a stock. He is afraid that there might be a sharp movement in the negative direction. He doesn't want to hold share below or at $23. What order he should place for this?
   a) Good till cancelled
   b) Stop-loss sell order
   c) Limit buy oder
   d) Limit sell order

7. Which of the following ways to terminate a futures contract is the sole exception to the federal law that requires all trades to be placed on the floor of the exchange?
   a) Delivery
   b) Cash settlement
   c) Reverse/offsetting trade
   d) Exchange for physicals

8. Which of the following costs constituting the cost of carry is most likely to be the most volatile?
   a) Storage and safekeeping cost
   b) Insurance cost
   c) Interest cost
   d) Transportation cost

9. The covariance between the spot prices and the futures prices is 0.024. The standard deviation of the spot price is 0.4 and the variance of the futures price is 0.038. What is the optimal hedge ratio?
   a) 0.631
   b) 0.308
   c) 0.253
   d) 0.049

10. Neha has a well-diversified equity portfolio of $500 million. The beta of portfolio relative to S&P is 0.8. She wants to increase the beta to 1.2 for next 3 months. The current value of S&P500 futures index for 3 months is 1,450 and the contract size is 250. What transaction should she do to achieve the desired result?
   a) Buy 552 futures contracts
   b) Sell 552 futures contracts
   c) Buy 1,104 futures contracts
   d) Sell 1,104 futures contracts

11. Calculate the value of an FRA which will pay 6% compounded semi-annually on a principal of $5 million for a quarter after 3 months. Assume the 3-month and 6-month LIBOR continuously compounded spot rates to be 3% and 4% respectively?
   a) $114,802.8
   b) $121,305.7
   c) $122,524.8
   d) $124,576.4

12. For an option-free bond what is the impact of convexity on bond price with increase and decrease in interest rate?
    a) Positive with decrease in interest rate and negative with increase in interest rate
    b) Negative with decrease in interest rate and positive with increase in interest rate
    c) Positive with both increase and decrease in interest rate
    d) Negative with both increase and decrease in interest rate

13. Duration and modified duration are same when
    a) Quarterly compounded yields are used
    b) Annually compounded yields are used
    c) Continuous compounded yields are used
    d) Daily compounded yields are used

14. Forwards and futures differ in
    I. Priced during initiation
    II. Counterparty
    III. Regulation
    IV. Standardization
    a) I, III and IV
    b) II, III and IV
    c) I, II and IV
    d) I, II, III and IV

15. A 6-month forward on a coupon bond trading at $1,000 is priced at $990.25. Coupon is to be paid in 3 month and is paid semi-annually. What is the coupon rate for the bond? Assume risk-free rate to be 4% per annum.
    a) 5.93%
    b) 5.87%
    c) 5.76%
    d) 5.47%

16. Which of the following statements is most accurate?
    a) Convenience yield increases the futures price while storage cost decreases the futures price
    b) Convenience yield and storage cost both decrease the price
    c) Convenience yield and storage cost both increase the price
    d) Convenience yield decreases the futures price while storage cost increases the futures price

17. What is the futures price of a 6-month futures contract on Euro? Each contract has 100,000 Euros and is quoted in terms of dollar/euro. The current exchange rate is 0.84. The continuous compounded risk free rate is Europe and USA is 3% and 2.5% respectively.
    a) 0.8442
    b) 0.8421
    c) 0.8379
    d) 0.8358

18. Which of the following day count conventions would lead to the maximum accrued interest?
    a) actual/actual
    b) 30/360
    c) actual/360
    d) All conventions will lead to same accrued interest

19. What is the cash price of a 270-day T-bill with a discount rate of 4% and face value of $100?
    a) $96.00
    b) $97.00
    c) $97.09
    d) $103.00

20. The conversion factor of a bond is 1.38. The present value of bond is $144 and the face value is $110. What is the accrued interest?
    a) $7.80
    b) $6.60
    c) $6.00
    d) $5.60

21. Due to the daily marking to market aspect of the futures contract, the difference between actual forward rates and those implied by the futures contracts can increase. This difference is reduced by using
    a) Duration based hedge
    b) Convexity adjustment
    c) Cheapest-to-deliver bond
    d) All of the above

22. Which of the following statements about the swap is/are least accurate?
    I. The long has to pay to the short at the swap initiation
    II. They are standardized instruments
    III. They are not traded in any organized secondary market
    IV. They are largely unregulated
    V. Individuals are the major swap market participants
    a) II and V
    b) II, IV and V
    c) I, II and IV
    d) I, II and V

23. You think that the current volatility of the equity index is lesser than the historical volatility. What kind of swap you are most likely to enter?
    a) Swaption
    b) Volatility swap
    c) Interest rate swap
    d) Accrual swap

24. A $1 million notional swap is paying a floating rate based on 6-month LIBOR and receives a 5% fixed rate. The swap has a remaining life of 8 months with pay dates at 2 and 8 months. Spot LIBOR rates for 2 months and 8 months are 4.2% and 4.6% respectively. The LIBOR at the last payment date was 4.0%. What is the value of the swap to the fixed-rate receiver?
    a) $11,235.6
    b) $6,012.5
    c) $5,984.4
    d) $5,235.6

25. In what kind of a swap, a fixed rate payer might have to pay floating rate payment as well?
    a) Currency swap
    b) Interest rate swap
    c) Equity swap
    d) None of the above

26. Which of the following has similar payoffs as that of a calendar spread?
    a) Bear call spread
    b) Butterfly spread
    c) Covered call
    d) Strangle

27. A stock has following call option on different strike prices:
    $40 strike = $6.8
    $45 strike = $3
    $50 strike = $1.2
    What is the profit from the butterfly spread if the stock price at the expiry is $44?
    a) $2.0
    b) $3.0
    c) $4.0
    d) $6.0

28. Which of the following strategies bets on the volatility and pays more on the upside?
    a) Strip
    b) Box spread
    c) Collar
    d) Strap

29. Which of the following pattern is most likely to be correct with respect to the premium paid while initiating the strategies?
    a) Straddle>Butterfly>Strangle
    b) Straddle>Strangle>Butterfly
    c) Strangle>Straddle>Butterfly
    d) Strangle>Butterfly>Straddle

30. Which of the following factors has the same impact on both European and American call and put options?
    a) Time to expiration
    b) Dividends
    c) Volatility
    d) Risk-free rate

31. Which of the following statements is/are least accurate?
    I. The maximum value of European and American call options is always same
    II. The minimum value of European and American call options is always same
    III. The maximum value of European and American put options is always same
    IV. The minimum value of European and American put options is always same
    a) I and III
    b) I and II
    c) III and IV
    d) II and IV

32. The covered call strategy will have payoff similar to
    a) Short put option
    b) Long put option
    c) Long call option
    d) Short put option

33. What are the maximum and minimum values for a European put option with stock trading at $35. The strike is $40. Option is 6-month to expiry and risk-free rate is 4%?
    a) $39.21 and $4.21
    b) $39.21 and 0
    c) $40 and $5
    d) $39.21 and $5

34. The bonds which start as a low yield bonds but become high yield bonds after the downgrade of their ratings below investment grade are called as
    a) Businessman's risk
    b) Fallen angels
    c) Payment-in-kind bonds
    d) Step-up bonds

35. Which of the following statements is least accurate?
    a) In collateral trust bonds, the trustee retains voting rights for stocks used as collateral
    b) The debentures which are convertible into the common stock of a corporation other than that of the issuer are called as exchangeable debentures
    c) In the equipment trust certificates, the trustee purchases the equipment and leases it to the user of the equipment
    d) The unsecured bonds having another unsecured bond with a higher claim are known as subordinated debenture bonds

36. The spread duration for a bond is 3. What is the percentage value change in the bond if the credit spread decreases by 200 basis points? Assume that the Treasury rate is constant.
    a) +3.00%
    b) -3.00%
    c) +6.00%
    d) -6.00%

37. Which of the following bonds pay at most the specified interest, but they may pay less if the company's income is not sufficient?
    a) Participating bonds
    b) Payment-in-kind bonds
    c) Deferred-interest bonds
    d) Income bonds

38. Which of the following statements is least accurate?
    a) A long cap is equivalent to a portfolio of long put option on fixed-income security prices
    b) The value of put on bond price increases with decrease in interest rate
    c) The value of call on LIBOR increases with increase in interest rate
    d) A long floor is equivalent to a portfolio of long call options on fixed-income security prices

39. What is the payoff from the 6% interest rate cap for a quarter having 3-month LIBOR rate as 5.5%? The notional principal is $10 million.
    a) $50,000
    b) $16,667
    c) $12,500
    d) 0

40. If you have a positive net exposure, you would be making a profit from the exposure if
    a) Foreign currency fall in value against the domestic currency
    b) Foreign currency doesn't change in value against the domestic currency
    c) Foreign currency rises in value against the domestic currency
    d) Both (a) and (b)

41. What will happen to the FX exposure if a bank is buying or selling a currency for hedging purposes?
    a) Increase
    b) No change
    c) Decrease
    d) All of the above

42. If the forward rate and spot rate are quoted as DC/FC and domestic interest rate is higher than the foreign interest rate, then according to interest rate parity
    a) Forward rate will trade at a premium to the spot rate
    b) Forward rate will be same as the spot rate
    c) Forward rate will trade at a discount to the spot rate
    d) Can't conclude anything from given information

43. Which of the following is least likely to be specified by the bill of lading?
    a) Commodity owner
    b) Package weights
    c) Dates of shipment
    d) Quality of goods

44. Which of the following statements is accurate with regard to the transportation risk?
    a) Free-on-board (FOB) buyer is responsible only for the ordinary transportation risk
    b) Free-on-board (FOB) buyer is responsible only for the extraordinary transportation risk
    c) Free-on-board (FOB) buyer is responsible for both ordinary and extraordinary transportation risk
    d) Free-on-board(FOB) buyer is neither responsible for ordinary transportation risk nor extraordinary transportation risk

45. Which of the following statements is accurate for hedgers?
    a) Hedgers take only the basis risk
    b) Hedgers take only the price risk
    c) Hedgers take both price and basis risk
    d) Hedgers don't take either of the price or basis risk

46. The variance of a commodity futures price is 8% and the variance of the spot price is 10%. The variance of the basis price is 0.5%. What is the hedge effectiveness?
    a) 0.95
    b) 0.9375
    c) 0.925
    d) 0.92

47. Which of the following statements is least accurate?
    a) The market depth generally decreases with increase in maturity of the instrument
    b) Funding liquidity risk decreases with increasing margins
    c) Basis is the difference between the spot price and the futures price
    d) Transportation costs to an acceptable destination in included into the basis risk

48. Which of the following statements is least accurate about the cash-and-carry arbitrage?
    a) At the initiation money is borrowed for the term of the contract at market interest rates
    b) At the initiation the underlying commodity is sold at the spot price
    c) At the initiation futures contract is sold at the current futures price
    d) At the expiry, loan is repaid with interest

49. What is the 6-month forward rate for a bushel of corn that has a spot rate of $8 and an annual lease rate of 6%? Assume the continuously compounding annual risk-free rate for the commodity to be 7.5%.
    a) $7.88
    b) $7.94
    c) $8.06
    d) $8.12

50. The 1-month futures price of the crude oil is $45 per barrel. The 2-month futures prices for gasoline and heating oil are $58 and $47.5 respectively. It takes 1 month to produce and sell gasoline and kerosene from crude oil. What is the profit for the 5-3-2 spread? Ignore the interest cost.
    a) $33.50
    b) $34.50
    c) $38.50
    d) $44.00