Zero Exam, December 2016   Student's name ....No ....

1) If the margin account drops below the _____ , the holder of the futures contract gets a _____ .
   a) exercise price, margin call
   b) maintenance margin, margin call
   c) call parity, put option
   d) put-call parity, call option premium

2) The price for a Eurodollar futures contract is 99,00. A _____ LIBOR forward rate is equal to ___.
   a) 3M, 1%
   b) 3M, 9%
   c) 6M, 1%
   d) 6M, 9%

3) If the spot price of a primary asset is $200 and the risk-free rate is 2 per cent per annum, the three-month forward price should be closest to
   a) 201
   b) 202
   c) 204
   d) 208

4) The spot exchange rate for U.S. dollars is PLN 3,20. The market forward exchange rate is PLN3.19. Time to expiration is 90 days. Convention: a/360. The local risk-free interest rate is 4 percent. The foreign risk-free interest rate is 3 percent. The implied (theoretical) forward exchange rate is:
   a) 3,18.
   b) 3,19.
   c) 3,21
   d) 3,23

5) The spot exchange rate for U.S. dollars is PLN 3,20. The market forward exchange rate is PLN3.19. Time to expiration is 90 days. Convention: a/360. The local risk-free interest rate is 4 percent. The foreign risk-free interest rate is 3 percent. To make an arbitrage profit you should …. .
   a) borrow local currency
   b) buy currency
   c) invest foreign currency.
   d) buy cheap currency forward.

6) The spot exchange rate for U.S. dollars is PLN3,20. The market forward exchange rate is PLN3.19. Time to expiration is 90 days. Convention: a/360. The local risk-free interest rate is 4 percent. The foreign risk-free interest rate is 3 percent. The implied repo rate is:
   a) 1,7%
   b) 8,2%%
   c) 10.4%
   d) 11,1%

7) A bond has maturity of 10 years. A bond futures contract expires in 3 months. The duration of a bond futures contract is closed to
   a) 0.25 years
   b) 6 years
   c) 12 years
   d) 20 years.

8) The currency **net short position** is equal to $100 thousands. The futures contract size is $10,000. Time to expiration is 90 days. The local risk-free interest rate is 4 percent. The foreign risk-free interest rate is 3 percent. The delta-neutral hedge ratio should be:
   a) -0.50
   b) 0.50
   c) -0.998
   d) 0.998

9) If there is any time remaining before a put option expires, it will:
   a) sell for less than its intrinsic value.
   b) sell for more than its intrinsic value.
   c) sell for its intrinsic value.
   d) be worth nothing.

10) Which of the following in **not** a property of a put option.
   a) option price decreases as stock price increases.
   b) option price increases as risk-free rate decreases.
   c) option price increases as stock price volatility increases
   d) the longer the remaining life of the option, the smaller the option premium.

11) Because of the downside risk protection feature of options:
  a) option buyer cannot lose more than her initial investment.
  b) there is no possibility of incurring a loss.
  c) the minimum value of an option at expiration is $1.
  d) none of the above.

12) A six-month call option with an exercise price of $20 is currently selling for $4. The current price of the underlying security is $22. What should be the price of a similar put option if the risk-free rate is 10%?
  a) 1,1
  b) 2,5
  c) 3,5
  d) 4,0

13) Which of the following is not a characteristic of an option
  a) fixed maturity
  b) affects the market value of an underlying asset
  c) can be exercised before expiration
  d) allows its holder to buy or sell an underlying security

14) The value of a call option
  a) increases as the interest rate decreases
  b) increases as the exercise price increases
  c) decreases as the spot price increases
  d) decreases as the time decay decreases

15) A six-month call option with an exercise price of $20 is currently selling for $5. The current price of the underlying security is $22. What should be the price of a similar put option if the risk-free rate is 5%?
  a) 1,5
  b) 2,5
  c) 3,5
  d) 4,0

16) A put option writer expects
  a) the price of the stock to rise above the exercise price.
  b) the price of the stock to remain at the exercise price.
  c) the price of the stock to fall below the exercise price.
  d) none of the above.

17) Calculate the payoff at expiration for a put option on bond in which the underlying is at $1,05 per $1 par at expiration, the contract is on $100,000 face value bonds, and the exercise price is 1,15.
  a) 0
  b) 10000
  c) 25000
  d) 95000.

18) A stock currently trades at a price of $100. The stock price can go up 10 percent or down 15 percent. The risk free rate is 5 percent. The exercise price is $80. Use a one-period binomial model to calculate the price of a call option.
  a) $0,80.
  b) $8,8.
  c) $16,8.
  d) $22,9.

19) What is the value of a put option at expiration
  a) S-E
  b) E-S
  c) max(0,S-E)
  d) max(0,E-S)

20) The binomial model is
  a) a continuous version of the Black-Scholes option pricing model.
  b) is more flexible and universal than the Black-Scholes model.
  c) gives the same results as the Black-Scholes model.
  d) none of the above..