

SAMPLE FINAL QUESTIONS

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HOW TO PREPARE FOR THE FINAL:

1. Study in a group
2. Review the concept questions in the Before and After book
3. When you review the questions listed below, make certain that you know WHY the wrong answers are wrong in addition to knowing the correct answer.
4. Before answering a question try to identify the framework or model or picture or equation from our classroom discussion (or from the homeworks) that are relevant to the question.
5. Change a word or phrase in the question and then discuss whether and how the correct answer changes.
6. Take all questions seriously AND think before you answer.
7. Avoid the same mistakes you made on the mid-term.

EASY QUESTIONS:

1. Assume next year's dividends are \$3.00 per share and they are expected to grow at 4 percent per year. If the risk adjusted discount rate is 7 percent, then the constant rate of growth model implies a stock price of:

- (a) 80 (b) 90 (c) 100 (d) 110

2 Assuming the CAPM holds, the most appropriate discount rate to use in valuing a project to double the size of an all-equity firm's main factory is:

- (a) the risk free rate plus the company's beta times $(R_M - R_F)$.
(b) the risk free rate plus the standard deviation of the project's returns
(c) the internal rate of return on the project
(d) the risk free rate plus the company's beta

3. A bond's duration is higher when

- (a) The coupon rate is higher
(b) The coupon rate is lower
(c) Yield to maturity is higher
(d) None of the above

4. If the one year spot rate is 4% and the forward rates for years 2, 3, 4, 5 are 5%, 7%, 8%, and 6%, respectively, then today's interest rate on a five-year bond should be

- a. 4%
- b. 5%
- c. 6%
- d. 7%
- e. 8%

5. The Dividend Discount Model (DDM)

- a. is a valuation model only for companies that have paid dividends
- b. is a dividend distribution model used by corporate managers for dividend decisions
- c. is a valuation model for new issues only
- d. accounts for risk by discounting with a risk adjusted discount rate
- e. a and d

6. The efficient market hypothesis says

- (a) No one can ever beat the market over a ten year period
- (b) Insider trading should be illegal
- (c) Everyone should hold the same portfolio
- (d) None of the above

7. According to the liquidity premium theory, an upward sloping yield implies

- (a) Short-term rates are expected to rise
- (b) Long-term rates are expected to rise
- (c) Short-term rates are definitely not expected to decline
- (d) You cannot tell

8. A coupon bond that pays interest of \$100 annually has a par value of \$1,000, matures in 5 years, and is selling today at a \$72 discount from par value. The yield to maturity on this bond is

- a) 6.00%
- b) 8.33%
- c) 10.39%
- d) 12.00%
- e) 60.00%

9. Comparing a long put position with a short call position reveals the following common element:

- (a) both positions have rights but no obligations

- (b) both positions benefit from an increase in interest rates
- (c) both positions will lose money if the price of the underlying remains unchanged
- (d) both positions are potential sellers of the underlying asset

10. If corporate insiders who buy stock in their companies earn the same risk adjusted return as other investors, then:

- (a) the market is not strong form efficient
- (b) the market is strong form efficient
- (c) they do not hold well diversified portfolios
- (d) then the beta of their portfolios must be one

11. To lend money starting at the beginning of next year for one year at a currently known rate you can:

- (a) sell short a two year security and buy a one year security
- (b) buy a two year security and sell short a one year security
- (c) buy a two year security
- (d) sell short a two-year security

12. One thousand dollars invested in a zero coupon bond with five years to maturity will produce the same amount of money after five years as \$1000 invested in a 10 percent coupon bond with five years to maturity:

- (a) if they are both priced to yield 10 percent to maturity
- (b) if the investor can and does reinvest the coupons at the yield to maturity
- (c) if (a) and (b) hold
- (d) under no circumstances

13. A one basis point decrease in yield on a bond with a duration of 10 years and a yield to maturity of 11 percent produces a change in the price of a \$100 face value bond from \$90.00 to:

- (a) 90.05
- (b) 89.92
- (c) 90.11
- (d) 90.08

14. The duration of a 5 year zero coupon bond is lower when the interest rate is:

- (a) higher
- (b) lower
- (c) unchanged
- (d) none of the above

15. Suppose you buy an IBM straddle: a put with a strike of 60 and a call with a strike of 60, where each option has a premium of \$3. Your straddle is an appropriate strategy if you believe that at expiration:

- (a) IBM will be above 63
- (b) IBM will be below 57
- (c) IBM will be either above 63 or below 57
- (d) IBM will be either above 66 or below 54

HARDER QUESTIONS:

16. Which of the following five-year investments has the highest effective annual rate
- (a) An 8 percent coupon annual pay bond selling at 97
 - (b) An 8 percent coupon semi-annual pay bond selling at par
 - (c) A zero coupon bond with \$ 1 000 face value selling at \$665
 - (d) They all have the same EAR
17. Suppose you buy a put option with a strike price of 100 for a premium of \$10. Your maximum profit per share is
- (a) \$10
 - (b) \$100
 - (c) \$90
 - (d) \$110
18. If securities returns are serially correlated then:
- (a) the stock market is weak form efficient
 - (b) the stock market is semi-strong form efficient
 - (c) the stock market is strong form efficient
 - (d) the stock market is weak form inefficient
19. According to the expectations theory, an upward sloping yield curve implies
- (a) Future short-term rates are expected to rise
 - (b) Long-term rates will be higher next year
 - (c) a and b
 - (d) You cannot tell
20. Which of the following is consistent with a random walk?
- (a) Tomorrow's stock price level is independent of today's stock price level
 - (b) Tomorrow's returns are independent of today's returns
 - (c) News does not affect stock prices
 - (d) All of the above
21. Being long a call and short a put with the same exercise price and expiration is like:
- a. Long stock
 - b. Short stock
 - c. Long stock on margin
 - d. Long a straddle

22. If the implied volatility of a call is greater than what you think is the actual volatility, you should:
- Buy the call
 - Write the call
 - Buy the put
 - Sell the stock
23. In a swap agreement, the fixed rate payer/floating rate receiver has a position similar to:
- Long the five-year, short the 6-month
 - Short the five-year, short the 6-month
 - Long the five-year, long the 6-month
 - Short the five-year, long the 6-month
24. If the expected one-year rate beginning next year is less than the forward rate, what should you think about doing today if you are going to receive 1000 dollars in one year?
- Nothing
 - Buy the one year zero, short the two year zero
 - Buy the two year zero, short the one year zero
 - Buy a futures contract on the 30-year bond and sell in two years
25. According to the Black Scholes model, if $N(d_1)$ and $N(d_2)$ for a particular call option are both =0, which of the following is most true
- The call is worthless
 - The call will be exercised with certainty
 - The call will not equal the minimum value
 - The call will be less than the minimum value
26. Which of the following represents an arbitrage opportunity where you would do the following: buy the call, sell the put and sell the stock. $S=110$, $E=100$, $r=0$, $t=1$
- $P=2$, $C=12$
 - $P=5$, $C=15$
 - $P=12$, $C=23$
 - $P=5$, $C=12$
27. Assume you bought an 8% coupon bearing bond with 4 years to maturity at par and then sold it at a premium before maturity. If you were able to reinvest the coupons at the YTM, then:
- Return = YTM
 - Return is less than YTM
 - Return is greater than YTM
 - You cannot tell

28. The Liquidity Premium theory says (2 are right):
- The equilibrium 2 year rate = forward rate
 - The equilibrium 2 year rate is greater than the average of the current and expected future short term rates
 - The expected future short term rate = the forward rate
 - The expected future short-term rate is less than the forward rate
29. The Liquidity Premium theory holds because investors are risk averse and because there are:
- More 2 year investors than one year investors
 - More 2 year securities than “two-year” investors
 - More one year securities than one year investors
 - All of the above
30. Assume a zero coupon bond has duration = 10 years and a 30 year bond has an 18% coupon and a duration = 10 years. Assume further that the yields on both bonds are the same and then change by the identical infinitesimally small amount. Then, the price volatility of the 30 year will be:
- Equal to the price volatility of the zero
 - Less than the price volatility of the zero
 - Greater than the price volatility of the zero
 - Can't tell
31. The ability to replicate an option with a position in the underlying stock depends crucially on:
- dynamically adjusting the hedge ratio on a continuous basis
 - correctly predicting tomorrow's stock price
 - properly estimating the stock's β
 - all of the above
32. Bonds with call provisions are
- more desirable than noncallable and generally higher priced
 - less desirable than non callable and generally lower priced
 - more desirable than non callable and generally higher priced
 - are not worth buying
33. A party will enter a Swap agreement to:
- Reduce risk exposure on its balance sheet
 - Speculate
 - Immunization against interest rate changes
 - Not enough information given to determine

34. An upcoming event suggests that there will be significant movement in the share price, but you're not sure in which direction. Which position would you choose?

- a) Long a call
- b) Short a call
- c) Long a straddle
- d) Long a protective put

HARDEST QUESTIONS:

35. For a Treasury Bill, the BYE $[(F-P)/P]/t$ where $t = x/365$

- a) assumes compounding within a year
- b) assumes simple interest
- c) takes the periodic rate and multiplies by the number of periods
- d) b and c are true

36. Assuming you hold an annual pay coupon bearing bond to maturity, its annual return $[r\text{-ann} = (V_t/V_0)^{(1/t)} - 1]$ is equal to

- a) the YTM if you can and do reinvest at a fixed rate
- b) the EAR
- c) the YTM if you can and do reinvest at the YTM
- d) none of the above

37. In a downward sloping yield curve environment,

- a) the liquidity premium cannot exist
- b) according to the expectations approach, long-term rates are no longer an average of current and expected future rates
- c) expected future short term rates cannot be greater than the current short term rate
- d) a and b are correct

38. According to the Expectations Approach to the term structure

- a) the forward rate is not a good estimate of the expected future 1-year rate
- b) investors are risk averse
- c) when the term structure is in equilibrium, the forward rate is equal to the expected rate
- d) none of the above

39. According to the liquidity premium approach to the term structure

- a) The investors' subjective degree of risk aversion is embedded in the 2-year rate
- b) the equilibrium 2-year rate $>$ an average of 1-year and expected future 1-year rate
- c) the forward rate $>$ the expected rate due to a risk premium
- d) all of the above

40. The buyer of a put and seller of a call
- a) both are potential sellers of the underlying asset
 - b) both have rights and not obligations
 - c) both profit if the price of the underlying asset falls
 - d) a and c are correct
41. A protective put
- a) combines a long put with long stock
 - b) creates a long call
 - c) profits when the underlying asset's stock price increases
 - d) has downside protection
 - e) all of the above
42. Long a straddle
- a) is a bet on volatility
 - b) profits when nothing happens
 - c) profits with wide swings in either direction of the price of the underlying asset
 - d) is the same as a protective put
 - e) a and c are correct
43. The price volatility of a bond during a year, in general, depends upon
- (a) the duration of the bond
 - (b) the volatility of interest rates
 - (c) the volatility of expected inflation
 - (d) all of the above
44. Which of the following statements is false:
- a) When current yield is greater than yield to maturity, the bond is selling at a premium
 - b) The price of a semi-annual or an annual coupon paying bond will be the same if their coupon rate is the same as yield to maturity regardless of differences in maturity
 - c) The concept of yield to maturity suffers from the reinvestment assumption for both semi-annual and annual coupon paying bonds
 - d) If I invest \$100 in a 10% coupon, 2-year bond at par, I will certainly get \$121 at the end of the two years
45. An executive is given two choices, either receive nontransferable one-year European call options on 1000 shares with an exercise price of 100 or get an extra \$1,000 in bonus at the end of the year for every point that the company's stock exceeds 100 dollars. Which bonus plan should she choose to provide her with the largest dollar payout?
- a) Take the options
 - b) Take the money
 - c) They are the same

46. If the stock price falls and the call price rises, then what has happened to the call option's implied volatility (assuming nothing else has changed)?
- a) UP
 - b) Down
 - c) Same
 - d) Can't tell
47. Two-year zero coupon securities have greater price volatility than one-year zero-coupon securities over an identical one month period:
- a) under all circumstances
 - b) when investors are risk averse
 - c) only for parallel shifts in a flat yield curve
 - d) as long as the law of one price holds
48. The price (per \$100 face value) of a 7% semi-annual pay bond with exactly 2-1/2 years to maturity and a yield to maturity of 8.75% is:
- a) 93.4381
 - b) 96.9111
 - c) 96.1454
 - d) none of the above
49. Assuming the plowback ratio (b) is greater than zero and less than one, if a company has a higher ROE on its investments, then all else the same, which of the following must be true (more than one may be correct):
- a) the P/E ratio of its stock will be higher
 - b) the stock's beta will be higher
 - c) the company's growth rate will be higher
 - d) the implied volatility of call options on the stock will be lower
50. Suppose the current price of XYZ stock is \$50. You buy a call on XYZ with a strike price of 55 for \$6 and buy a put on XYZ with a strike price of 45 for \$5, both options to expire in one month (this position is known as a strangle). Based on this information alone, your position will make money on expiration if XYZ's stock price is above \$_____ or below \$_____.

SAMPLE FINAL ANSWERS

1. C
2. A
3. B
4. C
5. D
6. D
7. D
8. D
9. D
10. B
11. B
12. C
13. D
14. D
15. D
16. A
17. C
18. D
19. A
20. B
21. C
22. B
23. D
24. C
25. A
26. D
27. C
28. B, D
29. B
30. A
31. A
32. B
33. D
34. C
35. D
36. C
37. C
38. C
39. D
40. D
41. E
42. E
43. D
44. D
45. C
46. A
47. C
48. C
49. A, C
50. 66, 34