There are 25 questions on this exam. Record all of your answers on your blue bubble sheet.

1. The ___________ problem exists when having insurance against some risk causes the insured party to take greater risk or to take less care in preventing the event that gives rise to the loss.
   a. moral hazard
   b. adverse selection
   c. principal agent problems
   d. all of the above
   e. none of the above

2. ______________ means giving the lender the right to seize specific business assets in the event of default.
   a. Increasing moral hazard
   b. Increasing adverse selection
   c. Collateralization of loans
   d. All of the above
   e. None of the above

3. _____________ instruments are also called fixed-income instruments.
   a. Debt
   b. Equity
   c. Derivative
   d. All of the above
   e. None of the above

4. A call option gives its holder the right to ______ some asset at a specified price on or before some specified expiration date.
   a. Sell
   b. Buy
   c. Do nothing with
   d. None of the above

5. If the short term rates are higher than the long term rates, then the yield curve is
   a. upward sloping
   b. downward sloping
   c. flat
   d. none of the above
The following two questions are intended to be calculated as a pair.

6. Suppose you are investing for one year and the interest rate on a one year French government bond is 5% and at the same time it is 9% on a U.S government bond. The exchange rate is currently 6.15 French Francs to the dollar. Suppose you invest $1000 in a U.S bond. Also suppose a year from now that the French Franc/ dollar exchange rate is 6.50 French francs to the dollar. What will be the realized French Franc rate of return on the U.S bond?
   a. 5.69%
   b. 9.00%
   c. 15.2%
   d. 9.90%
   e. none of the above

7. In the previous question, what does the change in the exchange rate have to be at year's end for the French investor to earn exactly 4% per year on the investment in U.S bonds?
   a. 6.20 FF/$
   b. 5.87 FF/$
   c. 6.40 FF/$
   d. 5.42 FF/$
   e. none of the above

Consider the following yield data and answer the questions below:

2/29/98

<table>
<thead>
<tr>
<th></th>
<th>1-10 yr</th>
<th>10+ yr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Treasury</td>
<td>5.58%</td>
<td>5.72</td>
</tr>
<tr>
<td>Corporate</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-10 yr High Qlty</td>
<td>5.98</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Med Qlty</td>
<td>6.17</td>
</tr>
<tr>
<td>10+ yr High Qlty</td>
<td>6.26</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Med Qlty</td>
<td>6.57</td>
</tr>
</tbody>
</table>

8. Calculate the yield spread for Treasury bonds with maturity 1-10 year and corporate bonds of high quality of the same maturity.
   a. 1.11%
   b. 0.68%
   c. 0.28%
   d. 0.40%
   e. none of the above
9. You invest in a stock which costs $45.50. It pays a cash dividend during the year of $1.20 and you expect its price to be $49 at year's end. What is your expected rate of return if you sell the stock at the end of the year?
   a. -4.69%
   b. 9.59%
   c. 10.33%
   d. 4.69%
   e. none of the above

10. The __________ the standard deviation, the __________ the volatility of the rate of return.
    a. higher, lower
    b. lower, higher
    c. higher, higher
    d. higher, absence of
    e. none of the above

11. Suppose the risk-free nominal interest rate on a one year U.S. Treasury bill is 6% per year and the expected rate of inflation is 4% per year. What is the expected real rate of return on the T-bill?
    a. 2.91%
    b. -1.92%
    c. 1.92%
    d. 1.89%
    e. none of the above

12. Consider the following problem. Currently, you have a bank account which has $6,000 earning an interest rate of 4% per year. At the same time you have an unpaid balance on your credit card of $3,000 on which you are paying a rate of interest of 18%. If the time frame is one year, the arbitrage opportunity you face is:
    a. $420
    b. $540
    c. $120
    d. $300
    e. none of the above

13. The __________ is the unit of account for computing the real rate of return:
    a. the nominal interest rate on stock
    b. standardized basket of consumption goods
    c. the country's rate of inflation
    d. (b) and (c)
    e. none of the above
14. ___________ is the process of going from present value to future value, whereas ___________ is finding the present value of some future amount. 
   a. Discounting, compounding 
   b. Compounding, annualizing 
   c. Compounding, discounting 
   d. Discounting, leasing 
   e. None of the above

15. The difference between an immediate annuity and an ordinary annuity is: 
   a. the number of periods 
   b. the amount of the payments 
   c. the interest rate 
   d. the timing of the payments 
   e. None of the above

16. The preferred stock of Tavistock Realty offers a cash dividend of $2.28 per year and it is selling at a price of $110 per share. What is the yield of Tavistock Realty preferred stock? 
   a. 2.07% 
   b. 49.24% 
   c. 5% 
   d. 10% 
   e. None of the above

17. What is the effective rate on a certificate of deposit that has a nominal rate of 11.5 percent with interest compounded quarterly? 
   a. 11.50% 
   b. 10.90% 
   c. 12.01% 
   d. 13.13% 
   e. none of the above

18. If you purchased a $12,000 certificate of deposit today (CD) with a nominal annual interest rate of 14%, with quarterly compounding, what would the CD be worth when it matures in 5 years? 
   a. $23,105 
   b. $23,877 
   c. $18,133 
   d. $17,867 
   e. none of the above is within $10 of the correct answer

19. You are trying to decide whether or not to buy a bond for $990 which will make one payment for $1050 four years from today. What is the internal rate of return on the bond’s cash flows? 
   a. -1.46% 
   b. 1.48% 
   c. 14.8% 
   d. 26.53% 
   e. none of the above
20. Consider the problem of calculating a loan amortization schedule. The portion of the payment that goes toward the payment of interest is ___________ than the previous period's interest payment and the portion going toward repayment of principal is ___________ than the previous period's.
   a. greater, lower
   b. lower, lower
   c. greater, greater
   d. lower, greater
   e. none of the above

21. When considering effective interest rates, as the compounding frequency increases, the effective annual rate gets ___________ and ___________ but approaches ___________.
   a. larger, larger, a limit
   b. smaller, smaller, a limit
   c. larger, larger, infinity
   d. smaller, smaller, infinity
   e. none of the above

22. In 10 years you wish to own your business. How much will you have in your bank account at the end of 10 years if you deposit $300 each quarter (assume end of the period deposits)? Assume the account is paying an interest rate of 12% compounded quarterly and round off to the nearest dollar.
   a. $230,127
   b. $30,000
   c. $23,298
   d. $22,620
   e. None of the above

23. Compute the real future value of $2,000 in 35 years time. The real interest rate is 3.2%, the nominal interest rate is 8.36% and the rate of inflation is 5%. Compute the real future value to the nearest dollar.
   a. $6,023
   b. $6,853
   c. $33,224
   d. $11,032
   e. none of the above is within $50 of the correct answer

24. You have an investment opportunity with a nominal rate of 6% compounded daily. If you want to have $100,000 in your investment account in 15 years, how much should you deposit today, to the nearest dollar?
   a. $41,199
   b. $41,727
   c. $40,930
   d. $40,660
   e. none of the above
25. You have determined the present value of an expected cash inflow stream. Which of the following would cause the stream to have a higher present value?
   a. The discount rate increases.
   b. The cash flows are paid over a shorter period of time.
   c. The discount rate decreases.
   d. Statements (b) and (c) are both correct.
   e. Statements (a) and (b) are both correct.
1. a
2. c
3. a
4. b
5. b
6. c
7. b
8. d
9. c
10. c
11. c
12. a
13. b
14. c
15. d
16. a
17. c
18. b
19. b
20. d
21. a
22. d
23. a
24. d
25. d