

Name _____ Section _____ ID # _____

Professor Pestano's Section S (Mondays, 2.30-5.30 pm), Professor Patterson's Section P (Mondays, 7-10 pm), Professor King's Section N (Tuesdays, 7-10 pm), Professor King's Section O (Internet), Professor Alagurajah's Section Q (Wednesdays 7-10 pm), Professor Ho's Section R (Fridays, 2.30-5.30 pm), and Professor Yildirim's Section M (Thursdays, 4-7 pm) and Section T (Thursdays, 7-10 p.m.).

**AP/ADMS 3530.03 Finance Midterm Exam
Winter 2011
February 13, 2011**

Type A Exam

This exam consists of **30 multiple choice questions** and carries a total of **100 points**. Choose the response which best answers each question. **Circle your answer below, and fill in your answers on the bubble sheet. Only the bubble sheet is used to determine your exam score.** Please do **not** forget to write your name and ID # both at the top of this cover page and on the bubble sheet. Also please write the type of your exam (A or B) on the bubble sheet.

Please note the following points:

- 1) **Read the questions carefully and use your time efficiently.**
- 2) Choose the answers that are **closest** to yours, because of possible rounding.
- 3) Keep at least **4** decimal places in your calculations and final answers, and at least **6** decimal places for the interest rate
- 4) The 20 "Numerical questions" are worth 4 points each.
- 5) The 10 "Conceptual questions" are worth 2 points each.
- 6) Unless otherwise stated, interest rates are **annual**, and bonds pay **semiannual coupons** and have a face value (or par value) of **\$1,000**.
- 7) You may use the back of the exam paper as your scrap paper.

Numerical questions (4 points each)

1. You have retired early from your successful finance career and are donating \$4,500,000 to York University. This money will be used to pay for scholarships totaling \$320,000 each year forever. If the first scholarships are awarded (and paid) today, what is the interest rate that is being earned on your donation?

- A) 5.24%%
- B) 6.64%
- C) 7.11%
- D) 7.66%
- E) 8.11%

2. What is the true value of a stated "\$1 million prize", if the prize is paid out in 50 payments of \$20,000 per year and the first payment is made immediately? The interest rate is 6.5%, compounded annually.

- A) \$294,490
- B) \$313,632
- C) \$426,991
- D) \$675,274
- E) \$689,100

3. Your daughter has decided to go to medical school and you would like to make an investment today to help pay for her eight years of additional education. You estimate the expenses will be \$18,000 beginning one year from today and then increase by 2% per year. If your investment manager estimates that your investment will earn a 6.5% annual rate of return, how much should you invest today in order to meet the expected expenses over the next eight years?

- A) \$50,346
- B) \$116,819
- C) \$187,784
- D) \$191,560
- E) \$400,000

4. You are saving money to retire in ten years. You estimate that, in addition to your generous company pension plan, you will need an additional \$750,000 at that time. Due to some other financial commitments you won't be able to deposit any money in years 9 and 10 towards this retirement fund. How much, in equal amounts, must you deposit in a savings account at the end of each year (other than years 9 and 10) in order to save \$750,000? The savings account pays interest at 6% per year compounded annually.

- A) \$55,025
- B) \$59,115
- C) \$63,624
- D) \$67,441
- E) \$75,777

5. You decide to buy a house that costs \$700,000. You make a 15% down payment and finance the rest with a 25 year mortgage. The mortgage has a five year renewal term for which the posted mortgage rate is 5.80% (APR compounded semi-annually). What will the remaining principal of the loan be at the end of the 5-year term? Assume payments are monthly and begin at the end of the first month.

- A) \$533,006
- B) \$541,128
- C) \$593,006
- D) \$614,888
- E) \$627,066

6. You have decided to sell your prized comic book collection. A friend offers to buy it by giving you \$300 today plus five, equal end-of-year payments of \$850, beginning two years from today. If the interest rate is 7% what is the value today of your friend's offer?

- A) \$3,257.17
- B) \$3,344.08
- C) \$3,557.17
- D) \$3,644.08
- E) \$3,785.17

7. What is the APR on a loan with an effective annual rate of 12.42% and quarterly compounding of interest?

- A) 11.88%
- B) 12.00%
- C) 12.25%
- D) 12.37%
- E) 13.01%

8. How much interest will be earned in the fifth year if \$6,500 is deposited today that earns 7% interest compounded semi-annually?

- A) \$553.88
- B) \$554.48
- C) \$568.86
- D) \$609.36
- E) \$652.75

9. You are looking forward one year to your retirement and forecast that you will need \$65,000 per year to live initially, with this amount declining at a rate of 2.5% per year for 30 years. If you earn an interest rate of 4.5%, how much money should you have in your bank account today?

- A) \$722,276
- B) \$781,214
- C) \$812,593
- D) \$857,143
- E) \$1,429,675

10. After reviewing your retirement portfolio, you decide that you need to save an additional \$500,000 before you can retire. If you can save \$14,000 per year starting at the end of this year, how long will it take you to retire if the interest rate is 4% APR with monthly compounding?

- A) 10.4 years
- B) 11.8 years
- C) 17.3 years
- D) 22.5 years
- E) 27.2 years

11. How much would you pay for a 20-year, \$1,000 face value, 5% coupon bond, interest payable semiannually, if the yield to maturity is 9%?

- A) \$1,000.00
- B) \$631.97
- C) \$634.86
- D) \$1,065.04
- E) \$914.20

12. Find the yield to maturity of the following bond: Price=\$9,500, coupon rate=9.5% (paying semiannually), maturity=20 years, face value=\$10,000.

- A) 5.04%
- B) 10.33%
- C) 10.09%
- D) 9.5%
- E) 10.01%

13. The MMJ Company issued a \$1,000 face value, 15-year bond two years ago at the price of \$1,050. Since its yield to maturity has increased, its current price has dropped to \$955. If its coupon rate is 5%, payable semiannually, what is the bond's current yield to maturity?

- A) 5.44%
- B) 2.72%
- C) 5.49%
- D) 2.744%
- E) 5.56%

14. The Gordon Goodwill Company issued a 10-year bond today for \$1,180. The bond has coupon rate of 6%, semi-annual interest payment, maturity value of \$1,000, and maturity of 10 years. If the yield to maturity is expected to fall by 1% in the coming year, what will be the current yield of the bond at the end of this year?

- A) 4.8%
- B) 2.4%
- C) 2.82%
- D) 5.64%
- E) 3.82%

15. Four years ago, Mr. Shek paid \$1,060 for a Canada Government bond which has the following characteristics: coupon rate = 5%, interest payable semiannually, term to maturity = 10 years, face value = \$1,000. He has reinvested all the coupons at APR of 7.5% compounded semiannually. If he sold the bond today for \$1,100, what would be his annual rate of return?

- A) 4.10%
- B) 5.8%
- C) 2.05%
- D) 5.57%
- E) 2.57%

16. You purchase 100 shares of Joshua Corporation that are currently trading at \$20.00 per share. If investors demand a dividend return of 10% per year compounded quarterly, how much would you earn in dividend income each quarter?

- A) \$50
- B) \$200
- C) \$500
- D) \$100
- E) \$25

17. Kamal Corp. paid an \$0.84 annual dividend this past year. As a result of expected ongoing growth in the business Kamal has just announced that it expects to increase its dividends by 2% each year for the foreseeable future. Currently, Kamal stock is priced at \$21.32 per share. What is the rate of return on Kamal stock?

- A) 5.86%
- B) 6.02%
- C) 5.94%
- D) 4.96%
- E) 4.01%

18. Ashley Inc. has issued preferred stock that is currently priced at \$124.30 and pays an annual dividend of \$9 per share. If Ashley wishes to issue more preferred shares priced at \$100 each, what would be the annual dividend per share on the new shares if the new shares have the same risk level as the old shares?

- A) \$9.00
- B) \$6.76
- C) \$7.24
- D) \$11.19
- E) \$8.05

19. The Salma Corporation expects to pay annual dividends of \$1.00, \$1.50, and \$1.60 for each of the next 3 years. After that time, it is expected to increase its dividends by 3% annually for ever. Stocks similar to Salma earn an annual return of 9.5%. Assuming the markets are efficient how much should one share of Salma sell for today?

- A) \$29.70
- B) \$27.30
- C) \$23.87
- D) \$22.69
- E) \$27.05

20. In the upcoming year Julia Ltd. is expected to earn an after tax net income of \$5,000,000 and has 1,000,000 issued and outstanding common shares. Historically Julia has retained 70% of its earnings with the rest paid as dividends. The expected rate of return on Julia's shares is 16%, and its return on equity is 20%. Assuming that the markets are efficient what is Julia's current stock price?

- A) \$60
- B) \$62.50
- C) \$70.50
- D) \$75
- E) \$175

Conceptual questions (2 points each)

21. Which of the following should be the goal of the financial manager of a corporation?

- A) To maximize the company profit
- B) To maximize the revenues on the income statement
- C) To maximize current market value of the stock
- D) To maximize earnings per share
- E) To maximize market share

22. Which of the following help ensure managers act in the best interest of owners?

- I. A compensation package for managers that ties their salary to the firm's share price
- II. The threat that if the firm does poorly, shareholders will use a proxy fight to replace existing management
- III. If there is a high degree of likelihood the firm will become a takeover candidate if the firm performs poorly

- A) I only
- B) I and II
- C) I and III
- D) II and III
- E) I, II and III

23. Which of the following is/are considered a BENEFIT of the corporate form of organization?

- I. Ease of the transfer of ownership
- II. Limited life
- III. Double taxation

- A) I only
- B) I and III
- C) II only
- D) I and II
- E) I, II, and III

24. Given a future value (greater than zero), which of the following will lead to a lower present value?

- I. Higher discount rate
- II. Fewer time periods
- III. More frequent discounting

- A) I only
- B) II only
- C) I and III only
- D) II and III only

25. The total rate of return on a stock can be positive even when the price of the stock falls because of the:

- A) Capital appreciation.
- B) Interest paid.
- C) Dividend yield.
- D) Non-constant growth.
- E) Real rate of return.

26. Which of the following are correct concerning the yield to maturity (YTM)?

- I. The YTM is greater than the coupon rate for a discount bond.
- II. The YTM is less than the coupon rate when the coupon rate is 8% and the market rate is 7%.
- III. The YTM is equal to the coupon rate when a bond sells at par value.
- IV. The YTM is greater than the coupon rate for a bond selling at a premium.

- A) I and III only
- B) II and IV only
- C) II and III only
- D) I, II, and III only
- E) II, III, and IV only

27. The Gordon growth model assumes that:

- A) The rate of growth is constant.
- B) Next year's dividend is the same amount as last year's dividend.
- C) The rate of growth exceeds the required rate of return.
- D) The dividend amount used in the formula is the last dividend paid.
- E) The valuation is as of the year following the payment of the dividend used in the calculation.

28. Which of the following statements are correct concerning interest rate risk?

- I. The shorter the term, the greater the interest rate risk.
- II. The longer the term, the greater the interest rate risk.
- III. The lower the coupon rate, the greater the interest rate risk.
- IV. The higher the coupon rate, the higher the interest rate risk.

- A) I and III only
- B) I and IV only
- C) II and III only
- D) II and IV only
- E) None of the above

29. Which of the following statements concerning bond features is (are) correct?

- I. Bondholders generally have voting power in a corporation.
- II. Bond interest is tax-deductible as a business expense.
- III. The repayment of the bond principal is tax-deductible.
- IV. Failure to pay either the interest payments or the bond principal as agreed can cause a firm to go into bankruptcy.

- A) II only
- B) I and II only
- C) III and IV only
- D) II and IV only
- E) II, III, and IV only

30. An asset characterized by cash flows that increase at a constant rate forever is called a:

- A) Callable bond.
- B) Growing annuity.
- C) Growing perpetuity.
- D) Perpetuity due.
- E) Preferred stock.