Carleton UNIVERSITY

MIDTERM EXAMINATION

Fall 2011

Student Last Name: _____

Student First Name: _____

Student Number:_____

DURATION: 2 HOURS **No. of Students: 340**
Department Name & Course Number: BUSI 2504 **Section: C, D, E, F**
Course Instructor(s) : Mitch Murphy, Yuriy Zabolotnyuk

AUTHORIZED MEMORANDA

Calculator
Hand-written notes on one side of 8.5" x 11" sheet

Students MUST count the number of pages in this examination question paper before beginning to write, and report any discrepancy to a proctor.
This question paper has 6 (six) pages.

This examination question paper may not be taken from the examination room.

In addition to this question paper, students require: an examination booklet yes
Scantron sheet yes

		Received
Multiple choice questions (50 marks):	1 - 20 – 50 marks	_____
Problems (50 marks):	Q1 –15 marks	_____
	Q2 –15 marks	_____
	Q3 –20 marks	_____
	Total – 100 marks	_____

Do ALL 20 multiple choice problems: 2.5 marks per question for a total of 50 marks.

1. The Windjammer Co. bonds are currently selling for $1,003.17. These bonds mature in three years, pay interest annually, and have a yield-to-maturity of 6.63%. What is the coupon rate?
   A) 6.5%
   B) 6.6%
   C) 6.63%
   D) 6.75%
   E) 6.9%

2. Suppose you purchase a zero coupon bond with face value $1,000, maturing in 20 years, for $214.51. If the yield to maturity on the bond remains unchanged, what will the price of the bond be five years from now?
   A) $315.24
   B) $387.52
   C) $410.91
   D) $680.58
   E) $1,000

3. All else the same, the existence of which will increase the required return on a bond.
   A) Call provision
   B) Conversion feature
   C) Sinking fund
   D) Put provision
   E) Bond seniority

4. A change in yield to maturity, all else equal, will:
   A) Affect the price of a short term bond more than the price of a long term bond.
   B) Affect the price of a long term bond more than the price of a short term bond.
   C) Affect the coupon rate of a bond more than the current yield.
   D) Depends on whether the change in yield is an increase or a decrease.
   E) None of the above.

5. Cornerstone Industries has a bond outstanding that has a 7% coupon rate and a market price of $887.71. If the bond matures in five years and interest is paid semiannually, what is the yield to maturity?
   A) 4.9%.
   B) 5.5%.
   C) 7.5%.
   D) 9.9%.
   E) 14.9%.

6. You earn a 5% real return. If the inflation rate is 4%, what is your exact nominal return?
   A) 0.96%.
   B) 1.09%.
   C) 9.00%.
   D) 9.20%.
   E) 10.92%.

7. Mountain Gear, Inc. just announced that its annual dividend for this coming year will be $1.40 a share and that all future dividends are expected to increase by 4.5% annually. What is the market rate of return if this stock is currently selling for $28 a share?
   A) 5.00%.
   B) 5.23%.
   C) 9.50%.
   D) 9.93%.
   E) 10.38%.

8. If the required rate of return used in the dividend growth model is increased, then:
   A) The dividend amount must also increase.
   B) The current value of the stock will decrease.
   C) P0 will increase.
   D) The supernormal model must be used to value the stock.
   E) The growth rate must also increase.

9. As illustrated using the dividend growth model, the total return on a share of common stock is comprised of what?
   A) Capital gains yield and a dividend growth rate.
   B) Capital gains growth rate and a dividend growth rate.
   C) Dividend payout ratio and a required rate of return.
   D) Dividend yield and the present dividend.
   E) Dividend yield and a capital gains yield.

10. What would you pay today for a stock that is expected to make a $1.50 dividend in one year if the expected dividend growth rate is 3% and you require a 16% return on your investment?
    A) $11.54.
    B) $12.33.
    C) $12.43.
    D) $13.14.
    E) $14.30.

11. Mature Corp. has paid annual dividends of $1.55, $1.70, and $1.85 a share over the past three years, respectively. The company now predicts that it will maintain a constant dividend since its business has leveled off and sales are expected to remain relatively constant. Given the lack of future growth, you will only buy this stock if you can earn at least a 16% rate of return. What is the maximum amount you are willing to pay to buy one share of this stock today?
    A) $9.97.
    B) $11.56.
    C) $12.78.
    D) $13.41.
    E) $13.54.

12. F & D Industries common stock sells for $43.05 a share and pays an annual dividend that increases by 5% annually. The market rate of return on this stock is 10%. What was the amount of the dividend just paid by F & D?
    A) $1.95.
    B) $2.05.
    C) $2.15.
    D) $2.21.
    E) $2.26.

13. The dividend on Simple Motors common stock will be $2 in one year, $3.50 in two years, and $5.00 in three years. You can sell the stock for $75 in three years. If you require a 10% return on your investment, how much would you be willing to pay for a share of this stock today?
    A) $59.69.
    B) $64.65.
    C) $64.82.
    D) $65.66.
    E) $71.30.

14. You are attempting to value a stock in an industry where firms are generating exceptional dividend growth, but this growth is expected to slow to an equilibrium growth rate in about five years. Which stock valuation model is the most appropriate in this case?
    A) Perpetuity model.
    B) Constant growth model.
    C) Supernormal growth model.
    D) Perpetual growth model.

15. The Smart Bank wants to appear competitive based on quoted loan rates and thus must offer a 7.9 percent annual percentage rate. What is the maximum rate the bank can actually earn based on the quoted rate?

    A) 7.90 percent
    B) 8.18 percent
    C) 8.20 percent
    D) 8.22 percent
    E) 8.39 percent

16. Jamie owes $21,750 at a 5% rate of interest. The minimum amount that she must pay monthly is $230.69. How much faster can she pay off this loan if she makes monthly payments of $300.00?

    A) 1.68 years sooner
    B) 2.54 years sooner
    C) 2.79 years sooner
    D) 2.93 years sooner
    E) 3.01 years sooner

17. Which of the following are advantages of the corporate form of ownership?
    A) Limited personal liability and limited firm life
    B) Ability to raise capital and limited firm life
    C) Limited personal liability and ability to raise capital
    D) Ease of ownership transfer and simplicity of company formation
    E) Simplicity of company formation and the ability to raise capital

18. What would your payment be on a 10-year, $150,000 loan at 10% interest compounded semi-annually assuming the payments are made annually?
    A) $19,716.67
    B) $20,743.77
    C) $24,411.81
    D) $24,674.60
    E) $25,366.63

19. The company you work for will deposit $600 at the end of each month into your retirement fund. Interest is compounded monthly. You plan to retire 15 years from now and estimate that you will need $2,000 per month out of the account for the next 20 years. If the interest rate is 8% compounded monthly, how much do you need to put into the account in addition to your company deposit in order to meet your objective?
    A) $0.00
    B) $57.59
    C) $90.99
    D) $95.88
    E) $104.49

20. Your recently departed rich, eccentric uncle has left for you in his will a large sum of money. Unfortunately, rather than give you this sum of money immediately, he has instructed the executor of the will to pay you $10,000 in one year. This payment is to grow by 9% each year and to be made each year forever. If the appropriate discount rate is 10%, how much have you actually inherited?

    A) $100,000
    B) $1,000,000
    C) $11,111.11
    D) $9,090.90
    E) $10,000,000

Do ALL THREE problems.
Show how you arrived at your answer including (1) the general form of equation, (2) the equation with the correct numbers substituted in, and (3) the solution!

1. (15 marks) Party Time Inc. has a 6% coupon bond that matures in 11 years. The bond's face value is $1,000 and it pays interest semi-annually.

    a) What is the market price of the bond if the yield to maturity is 10%? (5 marks)

    b) If the bond quoted price today is 95.50 and the inflation rate is 2%, what is the real rate of return on the bond? (5 marks)

    c) Suppose that you purchased this bond when it was issued at par 4 years ago. If the yield to maturity drops to 3% when you sell this bond next year, what is your capital gain or loss (%)? What is your total return (%)? (5 marks)

2. (15 marks) Massey Motors is a new firm in a rapidly growing industry. The company is planning on *increasing* its annual dividend by 10% a year for the next 3 years and then *decreasing* the dividends by 4% per year forever. The company just paid its annual dividend in the amount of $1.00 per share. Assume that the required rate of return on this stock is 13.75%?

    a) What will the dividends be for the next 4 years? (5 marks)

    b) How much will a share be worth in 3 years? (5 marks)

    c) How much is a share worth today? (5 marks)

3. (20 marks) Rob and Laura wish to buy a new home. The price is $187,500 and they plan to put 20% down. They plan to finance the remainder with a mortgage through Royal Bank of Ottawa. The 10-year fixed mortgage rate is 5%; the first monthly payment is due at the end of the first month.

    a) How much will their monthly payments be? (5 marks)

    b) Assuming they pay off the loan over the 25 year period as planned, how much interest will they pay over the life of the loan? (5 marks)

    c) What will the outstanding balance of the loan be after 10 years assuming Rob and Laura make the first 120 payments right on time? (5 marks)

    d) Suppose Rob wants to pay off the loan in 15 years. How much extra must he pay each month to do so? (5 marks)