Last Name (PRINT) _____ **First name** _____

Student # _____ **Signature** _____

BUSI 2504
Midterm
Saturday Oct. 30, 2010

You have 1 hour and 55 minutes to complete the exam. Manage your time wisely.

Instructions:

1. The exam consists of 2 parts: multiple choice part and short answers part.
2. For the multiple choice part: write down your answers in the Scantron (bubble sheet) form. Ensure your name and student number is properly recorded.
3. For the short answers part: write your answer in the exam booklet.
4. You may use pen or pencil for your short answers. If you use pencil, you will not be eligible for re-mark.
5. **Show how you arrived at your answer including the general form of equation, the equation with the correct numbers substituted in, and the solution**. Provide explanations where appropriate.
6. Unless otherwise stated, there are no taxes.
7. Calculators are permitted.
8. The entire test paper must be returned along with the test booklet and Scantron form.

			Received
Multiple choice section (14 questions):		**35 marks**	_____
Short answer questions (4 questions):	**# 1**	**17 marks**	_____
	#2	**16 marks**	_____
	#3	**15 marks**	_____
	#4	**17 marks**	_____
		TOTAL 100 marks	_____

Multiple choice questions

(14 questions; 2.5 points each for the total of 35 marks)

1. Which one of the following statements is correct?
   A) Both partnerships and corporations incur double taxation.
   B) Both sole proprietorships and partnerships are taxed in a similar fashion.
   C) Partnerships are the most complicated type of business to form.
   D) Both partnerships and corporations have bylaws.
   E) All types of business formations have limited lives.

2. To create the same future value given a stated discount rate, you can:
   A) decrease both the present value and the time period.
   B) increase both the present value and the time period.
   C) decrease the time period and hold the present value constant.
   D) increase the present value and hold the time period constant.
   E) increase the present value and decrease the time period.

3. If you are investing money, you should prefer an _____ and if you are borrowing money you should prefer an _____.
   A) annuity due; annuity due
   B) annuity due; ordinary annuity
   C) ordinary annuity; annuity due
   D) ordinary annuity; ordinary due
   E) you should have no preference as it makes no difference.

4. This morning, you borrowed $3,900 at 7.75% per year. You are to repay the loan principle plus all of the loan interest in one lump sum two years from today. How much will you have to pay in two years?
   A) $4,202.25
   B) $4,241.41
   C) $4,404.19
   D) $4,465.11
   E) $4,527.92

5. The preferred stock of ABC Co. offers a 10.6 percent rate of return. The stock currently is priced at $80.19 per share. What is the amount of the annual dividend?
   A) $6.50
   B) $7.00
   C) $7.50
   D) $8.00
   E) $8.50

6. You are considering two projects with the following cash flows:

	Project A	*Project B*
Year 1	$2,500	*$4,000*
Year 2	3,000	*3,500*
Year 3	3,500	*3,000*
Year 4	*4,000*	*2,500*

Which of the following statements are true concerning these two projects?

I. Both projects have the same future value at the end of year 4, given a positive rate of return.
II. Both projects have the same future value given a zero rate of return.
III. Both projects have the same future value at any point in time, given a positive rate of return.
IV. Project A has a higher future value than project B, given a positive rate of return.

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

7. You are considering two loans. The terms of the two loans are equivalent, with the exception of the interest rates. Loan A offers a rate of 8.5 percent compounded monthly. Loan B offers a rate of 8.9 percent compounded semi-annually. Loan _____ is the better offer because_____.
A) A; the APR is lower.
B) A; the EAR is lower.
C) B; the APR is lower.
D) B; the EAR is lower.
E) It does not matter, as both loans have equal costs.

8. A convertible bond is a bond that can be:
A) exchanged for cash at prescribed points in time.
B) exchanged for a stated number of shares of common stock of the bond issuer.
C) modified from a fixed coupon bond into a floating coupon bond at prescribed points in time.
D) submitted to the issuer for redemption at the discretion of the bondholder.
E) submitted for payment any time the economy converts into a recessionary period.

9. Which of the following will increase the price of a bond, all else constant?

I. decreasing the time to maturity of a zero coupon bond
II. increasing the coupon rate
III. decreasing the market rate of return
IV. increasing the yield to maturity

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

10. Today, you are retiring. You have a total of $518,304 in your retirement savings and have the funds invested such that you expect to earn an average of 6 percent, compounded monthly, on this money throughout your retirement years. You want to withdraw $3,500 at the beginning of every month, starting today. How long will it be until you run out of money?
    A) 22.2 years
    B) 23.6 years
    C) 25.9 years
    D) 28.1 years
    E) 29.5 years

11. The outstanding bonds of RTF, Inc., provide a real rate of return of 3.3 percent. The current rate of inflation is 2.85 percent. What is the nominal rate of return on these bonds?
    A) 6.12 percent
    B) 6.15 percent
    C) 6.20 percent
    D) 6.24 percent
    E) 6.27 percent

12. The dividend growth model:
    A) values a stock based solely on the rate of dividend growth.
    B) can be used to value all common stocks.
    C) considers both the dividend yield and the capital gains yield.
    D) can not be used to value zero growth dividend stocks.
    E) is independent of an investor's required rate of return.

13. The dividend yield on a common stock is most similar to which yield on a bond?
    A) yield to maturity
    B) yield to call
    C) coupon yield
    D) market yield
    E) current yield

14. Eleven years ago, Sue invested $5,000. Today, Terri has the same amount saved as Sue, but Terri only invested $2,500. Both women earned 12% on their investments. How long ago did Terri invest her money?
    A) 17.1 years
    B) 17.4 years
    C) 17.9 years
    D) 21.5 years
    E) 22.0 years

Short answer problems (4 problems, 65 marks in total)

1) You are planning to retire in exactly 30 years. You are capable of making regular contributions to your savings at the end of every **quarter** over these 30 years. Your savings will earn an APR of 18 % compounded **quarterly**. You expect to live for 20 years past retirement and you anticipate withdrawing a minimum of $20,000 at the beginning of each **month** to cover living expenses. During retirement, the interest rate will be an APR of 12 % compounded **semi-annually**. How much must you contribute to your retirement savings each **quarter**? (17 marks)

2) A trust company provides car loans at a cost of 8.5% compounded daily for loan periods up to 60 months. Stan decides to get a $32,000 loan from the trust company to buy a new Lexus.

a) What is the monthly effective rate of interest? What is the EAR on this loan? (9 marks)

b) If Stan can afford to make monthly payments of $657, how many months will he need to pay for his new car? (6 marks)

3) The Ion Electric Car Company is expected to pay dividends of $1.00 a share one year from now and $1.15 two years from now. After that, ongoing demand for electric cars is expected to allow the company to increase its annual dividend by 7% per year indefinitely. Given the uncertainty around this new technology, Ion's investors require a return of 13% on their stocks.

a) What is Ion's stock worth per share today? (8 marks)

b) What is Ion's stock expected to be worth four years from now? (7 marks)

4) Bond Y pays an 8% coupon rate, with semiannual coupons, and matures in 10 years. Its price is **10,200** on a face value of $10,000.

   a) What is the yield to maturity on Bond Y? (4 points)

   b) By how many percent would the price of Bond Y change, if bond yields **increase by 2**%? (7 points)

   c) What would be your one-year capital gain yield if you decide to sell this bond **one** year from now, assuming Bond Y's yield to maturity will be equal to **5%** in one year
   (*Hint*: Ignore the interest rate changes discussed in part (b)). (6 points)