

Name _____

Student Number _____

MGF 301 Corporation Finance
Fall 2010

**TEST 1
VERSION I**

Please sign your name in the box

Please tear off the answer sheet and answer all of the following questions on the answer sheet.

(Note: Total Points = 100; Multiple Choice = 4 points each unless otherwise indicated)

1. Bond A has a 8% coupon and Bond B has a 5% coupon. If both bonds have the same yield to maturity and you buy both bonds today and hold them until maturity, on which bond will you earn the higher return?

- (a) Bond A
- (b) Bond B
- (c) The return will be the same**
- (d) It depends on what happens in the market over the next few years

2. Which of the following gives the formula for calculating the EAR with daily compounding of an 8% APR?

- (a) $EAR = (1+.08)^{365} - 1$
- (b) $EAR = (1+.08/12)^{12} - 1$
- (c) $EAR = (1+.08/52)^{52} - 1$
- (d) None of the above**

3. ABC announced this morning that they have developed a drug that will cure a major medical condition. Within minutes of the announcement, the stock price of ABC doubled. Mark each of the following as (T) rue or (F) alse:

- F (a) The book value of ABC went up due to this morning's trading
- T (b) The market value of ABC's equity doubled when the stock price doubled
- F (c) ABC's cash position improved this morning due to the higher stock price

4. As an analyst, you are trying to estimate a fair price for stock XYZ. You tried the constant growth dividend discount model but this did not work because the company does not pay a dividend. Which of the following is true?

- (a) XYZ should be paying a dividend because all publicly traded stocks are required to pay a dividend
- (b) XYZ stock can still be estimated by substituting expected free cash flow for dividends in the model**
- (c) The best estimate of stock price for companies that do not pay a dividend is the book value of equity
- (d) None of the above

5. You are evaluating two stocks: stock A has a price of \$40 per share and stock B has a price of \$100 per share. You want to buy the stock in the company with lower market value of equity because these stocks tend to have higher returns than larger stocks. Which stock has the smaller market value of equity? Explain. (6 points)

Not enough information is given. You need the number of shares outstanding to find the market value of equity = price x shares outstanding.

6. The lottery is offering two payout choices: Choice 1 pays \$10,000 each year starting today (time 0) and Choice 2 pays \$5,000 each year starting today (time 0). Payments increase each year by 3% in Choice 1 and by 5% in Choice 2. If the discount rate is 6%, calculate the PV of each choice. Show your work and solve for an exact answer. (8 points)

$$PV1 = 10,000 + 10,000(1.03)/(.06-.03) = 353,333.33$$

$$PV2 = 5,000 + 5,000(1.05)/(.06-.05) = 530,000$$

7. Setup a formula to solve for how much money you would have to put aside today so that you have exactly \$1 million 50 years from today if you earn a 4% annual rate compounded monthly. (6 points) Setup your answer in detail but do not solve

$$PV = 1,000,000/(1+.04/12)^{600}$$

8. Your bank has informed you that it will pay interest on your savings account using daily compounding instead of monthly compounding. Which is correct?

- (a) This change benefits the bank because they will be charging you a higher effective interest rate
- (b) The decrease in compounding interval increases the effective return on the account**
- (c) There will be no change in the effective return due to the change in compounding
- (d) None of the above

9. Forest Products is a publicly traded company that just announced earnings of \$20 million and that all \$20 million will be retained earnings. Which of the following is false?

- (a) The book value of equity will increase by \$20 million due to the retained earnings
- (b) The market value of equity may or may not increase depending on what the earnings announcement implies about future earnings
- (c) The earnings are based on historical sales and expense figures
- (d) None of the above**

10. Under a special promotion by the dealer, you have three choices for a 5 year car loan of \$10,000: (i) 5 annual payments of \$2,000; (ii) 60 monthly payments of 166.67; (iii) 260 weekly payments of \$38.46. All loan payments are made at the end of the period. Mark the following answers as (T) rue or (F) alse (assuming the discount rate is greater than 0): (2 points each)

- __F__ (a) The annual loan has the highest present value
- __T__ (b) The weekly loan has a higher present value than the monthly loan
- __F__ (c) All three choices have the same present value

11. BC Inc. has 2,000,000 shares of stock outstanding. The expected earnings of the company are \$3 million next year. The discount rate is 11%.

(a) If BC retains 70% of its earnings (i.e., BC pays out 30% as dividends) and has a return on equity of 14%, calculate the growth rate of dividends. Show your work along with the answer (5 points)

$$g = .14 \times .70 = .098$$

(b) If the dividend paid by BC is expected to grow at the rate in (a) above, calculate the price of its stock using the constant growth model? (6 points) Show your work along with the answer

$$EPS_1 = 3,000,000 / 2,000,000 = 1.5$$

$$D_1 = 1.5 \times .3 = .45$$

$$P = .45 / (.11 - .098) = 37.50$$

(c) Calculate the present value of growth options (PVGO) for BC stock. (6 points) Show your work along with the answer

$$\text{Price without growth} = 1.5 / .11 = 13.64$$

$$PVGO = 37.50 - 13.64 = 23.86$$

12. Bond X is a \$1,000 face value, annual bond with one year until maturity that is selling for \$1,020 and has YTM = 5%. Calculate the coupon rate of the bond. (7 points) Show your work along with the answer

$$\text{Price} = (\text{coupon} + 1000) / (1+r)$$

$$1020 = (\text{coupon} + 1000) / 1.05$$

$$\text{coupon} = 71$$

$$\text{coupon rate} = .071 \text{ or } 7.1\%$$

13. A company is offering a perpetuity you can purchase for retirement. If the perpetuity starts 40 years from today and pays \$50,000 per year, which formula correctly gives the PV if $r = 4\%$?

(a) $PV = 50,000 / .04$

(b) $PV = 50,000 \times [(1 / .04) - (1 / (.04 \times 1.04^{40}))]$

(c) $PV = 50,000 / (40 \times .04 - .04)$

(d) none of the above