

**ADMS 3530 FINANCE
MIDTERM REVIEW**

TIME VALUE OF MONEY

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. Compute the present value of the following set of payments for two years: \$300 each quarter for the first year and \$600 each quarter for the second year. The effective annual rate is 6% and payments will begin at the end of the first quarter.

- A) \$3,000.56
- B) \$3,340.77
- C) \$3,514.06
- D) \$3,854.02
- E) \$3,999.14

4. Your parents are willing to pay for your MBA degree and want to put aside funds today even though you will not be entering MBA school for another 3 years (from today). If they can earn 4.5% annually on the funds and your MBA school will cost \$35,000 at the beginning of each year of the two year program, how much money do they need to set aside today?

- A) \$57,435
- B) \$60,020

- C) \$65,653
- D) \$67,243
- E) \$70,186

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?

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

6. You have decided to buy your first house and you have been approved for a \$300,000 home mortgage. The posted rate is 5.60% (APR, compounded semiannually) and you have decided to make weekly payments. If the amortization period is 25 years and rates do not change, how much will you pay in interest over the life of the mortgage? (assume 52 weeks in one year)

- A) \$127,895
- B) \$253,618
- C) \$387,555
- D) \$553,618
- E) \$576,016

7. Which of the following strategies will allow real retirement spending to remain approximately equal, assuming savings of \$1,000,000 invested at 8% annually, a 25-year time horizon, and a 4 percent expected annual inflation rate?

- A) Spend approximately \$63,000 annually.
- B) Spend approximately \$78,225 annually.
- C) Spend approximately \$93,680 annually.
- D) Spend approximately \$127,500 annually.

8. Which account would be preferred by a depositor: a 7.20% APR with weekly compounding or a 7.25% APR with quarterly compounding?

- A) 7.20% with weekly compounding
- B) 7.25% with quarterly compounding
- C) The depositor would be indifferent

- D) The time period must be known in order to select the preferred account
- E) None of the above

9. What is the effective annual rate on a deposit of \$3,000 made eight years ago if the deposit is worth \$4,453.52 today? The deposit pays interest semi-annually.

- A) 2.50%
- B) 5.00%
- C) 5.06%
- D) 10.12%
- E) 12.50%

BONDS:

10. Joshua Inc. wants to sell bonds to finance its business expansion. To accomplish this, they plan to sell 20-year, \$6.2 million face value, zero-coupon bonds. The bonds will be priced based on a yield to maturity of 9.5%. How many bonds must they sell to raise the required capital?

- A) 38,079
- B) 42,500
- C) 54,500
- D) 57,500
- E) 61,333

11. What is the rate of return for an investor who pays \$1,054.47 for a three-year bond with a 7 percent coupon and sells the bond one year later for \$1,037.19? Assume the investor can reinvest the coupons at a 9% APR with semi-annual compounding. The bond pays coupons semi-annually and has a face value of \$1,000.

- A) 5.00 percent
- B) 5.15 percent
- C) 5.30 percent
- D) 8.43 percent

12. BH Corp. has bonds on the market with \$1,000 par value, 14.5 years to maturity, a YTM of 9%, and a current price of \$850. The bonds make semi-annual coupon payments. What is the coupon rate on BH Corp. Bonds?

- A) 3.56%
- B) 4.50%
- C) 5.50%
- D) 7.13%

E) 9.00%

13. KLY Inc. existing bonds have the following terms: 8% coupon, \$1,000 face value and they mature in 12 years. The discount rate reflective of the default risk and maturity is 14%. KLY Inc. is offering the bondholders the option to swap their existing bonds into 3-year zero-coupon bonds with a face value of \$1,000. Assuming KLY Inc. will not default during the next 12 years, should existing bondholders accept the option?

- A) Yes, because the zero coupon bonds have a shorter 3 year maturity.
- B) Yes, because, the zero coupon bonds are worth more.
- C) Yes, because the zero coupon bonds are less sensitive to interest rate risk.
- D) No, because the existing bonds are worth more.
- E) No, because zero coupon bonds do not pay interest.

STOCKS:

14. What proportion of earnings is being retained by the firm if the sustainable growth rate is 8 percent and the firm's ROE is 20 percent?

- A) 8%
- B) 12%
- C) 20%
- D) 40%

15. Potential investors of XYZ Corp. stock are looking for a 20% expected return. XYZ currently trades at \$15 per share and has just paid an annual dividend of \$2 per share. Based on the above what is the implied growth rate in dividends for XYZ Corp.?

- A) 5.00%
- B) 5.88%
- C) 6.25%
- D) 6.67%
- E) 7.14%

16. What should be the stock value one year from today for a stock that currently sells for \$35, has a required return of 15 percent, an expected dividend of \$2.80, and a constant dividend growth rate of 7 percent?

- A) \$37.45
- B) \$37.80
- C) \$40.25
- D) \$43.05
- E) \$45.03

17. 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?

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

18. What would be the price of a stock today when dividends are expected to grow at a 25 percent rate for three years, then grow at a constant rate of 5 percent forever, if the stock's required rate of return is 13 percent and next year's dividend will be \$4?

- A) \$61.60
- B) \$62.08
- C) \$68.64
- D) \$79.44

THEORY QUESTIONS:

19. 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

20. Which of the following statements is/are accurate with respect to time value of money? All else being the same.

- I. Present values increase as the discount rate increases
- II. Present values increase as the future value is further away in terms of time
- III. Present values are always smaller than future values when both "r" and "t" are positive.

- A) I only
- B) I and II only

- C) II only
- D) III only
- E) II and III only

21. The person most directly responsible for looking after the firm's cash, raising new capital and maintaining relationships with banks and other investors who hold the firm's securities is the:

- A) Controller
- B) Chief Financial Officer
- C) Treasurer
- D) Chief Executive Officer
- E) Accounts Payable Clerk

22. Which of the following statements about time value of money are true?

- A) Nominal and effective rates are the same for annual compounding only.
- B) All else being the same: converting an annuity to an annuity due decreases the present value.
- C) For a given dollar amount, the higher the discount rate, the higher the present value.
- D) All of the above statements are correct.
- E) None of the above statements are correct.

23. 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.

24. Suppose you are evaluating two annuities. They are identical in every way, except that one is an ordinary annuity and one is an annuity due. Assuming an interest rate of 10% per annum, which of the following is true?

- A) The ordinary annuity must have a higher present value than the annuity due.
- B) The annuity due must have the same present value as the ordinary annuity.
- C) The ordinary annuity must have a lower future value than the annuity due.
- D) The present value of annuities will differ by the one annuity payment.
- E) Answers C & D are correct.

25. 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

26. Johan wants to save \$1,200 a year. In order to maximize his future savings, he should:

- A) Deposit \$1,200 into his savings account on the last day of each year.
- B) Deposit \$100 each month as an annuity due.
- C) Deposit \$100 each month as an ordinary annuity.
- D) Deposit \$300 into his account at the end of each quarter.
- E) Deposit \$600 into his account at the end of every six month period.

27. Which of the following is *least* assured for firms that plowback a portion of earnings into the firm?

- 1.A) Growth in earnings per share.
- 2.B) Growth in dividends per share.
- 3.C) Growth in book value of equity.
- 4.D) Growth in stock price.
- 5.E) Growth in return on equity

28. Which of the following terms is typically associated with *both* preferred stock and common stock?

- A) Dividend yield.
- B) Voting rights.
- C) Proxy.
- D) Cumulative voting.
- E) All of the above.

29. A callable bond is a bond that:

- A) Can provide protection against inflation
- B) Can be converted into shares of stock of the issuing company
- C) Can be repurchased by the issuer prior to its maturity
- D) Can be sold at its nominal value
- E) Can be extended at the maturity date

30. 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