Financial Management

Practice Quiz

Time Permitted: 70 Minutes

Student Name and Number:_____

Instructions:

- Answer all 3 questions in the space provided on the question sheet.
- This quiz has a total of XX pages including a formula sheet, and a blank page that will not be marked
- You may use a financial and/or scientific calculator
- Show your work clearly for questions 2 – 3.
- If you are unclear as to the meaning of a question please state explicitly any assumptions that you are making.
- Good luck!

Question	**Marks Earned**
Question 1	/16
Question 2	/7
Question 3	/7
Total marks	**/30**

Question 1) Multiple Choice Questions (2 marks each)
For each of the following, please pick the best answer among a, b, c, d.

1. Concerning an ordinary annuity and an annuity due with the same payments (same number of payments and dollar amount) and positive interest rate, which of the following statements is most accurate?

a. The present value of the ordinary annuity is equal to an annuity due.
b. The present value of the ordinary annuity is greater than an annuity due.
c. The present value of the ordinary annuity is less than an annuity due.
d. There is no relationship

2. The relationship between the shareholders and the management team in a corporation is a good example of _____.

a. corporate hierarchy
b. partnership
c. principal-agent relationship
d. none of the above

3. To earn the most money, consumers should focus on which of the follow when selecting a savings accounting:

a, The highest annual effective rate
b. The highest annual percentage rate
c. The lowest frequency of compounding
d. The lowest annual percentage rate

4. You want to leave $1,000,000 for your descendants. Suppose you make a $1,000 deposit in a savings account paying 2.05% annual interest. You make no additional deposits. In how many years would it take for this amount to grow to the $1,000,000?

a. 55.39 Years
b. 72.87 Years
c. 279.75 Years
d. 340.41 Years

5. You have deposited $2000 in an account that promises to pay 8% (yearly interest rate). The interest is compounded semiannually. How much will you have at the end of 5 years?

a. $1,221.79
b. $1,733.20
c. $2,012.21
d. $2,960.49

6. The quoted APR compounded weekly (52 weeks in a year) which is equivalent to an APR of 20% compounding quarterly is about:

a. 3.80%
b. 18.26%
c. 19.55%
d. 21.54%

7. What is the present value of a perpetual cash flows of $300 per year growing at the rate of 4% if you receive your first cash flow at year 5 and the annual interest rate is 8%?

a. $5104.37
b. $5,512.72
c. $6,411.11
d. $7,500.00

8. You have won the Irish Sweepstakes. The interest rate is 14.73%. You are given two options on how to receive the payout. Which should you select?

1) Option A:
   $100,000 in 1 year
   $200,000 in 3 years
   $300,000 in 5 years

2) Option B:
   $1,000,000 in 10 years
   $2,000,000 in 30 years
   $30,000,000 in 50 years

a. Both Options are worth the same amount in present value terms, so it doesn't matter which you choose.
b. Select Option A: It is worth $53,897.84 more in present value terms.
c. Select Option B: It is worth $109,613.52 more in present value terms.
d. Select Option B: It is worth $32,400,000.00 more in present value terms.

Question No 2 (7 marks)

Someone has offered to buy you a financial instrument that has the following cash flows:

- You will receive $100 right now and you are going to continue to receive this payment every year forever.
- At the end of year 6, you will receive $500, and you will continue to receive $500 at the end of each year till year 9 (i.e., in total you will receive 4 payments from the end of year 6 to the end of year 9).
- You will receive another payment of $100 at the end of year 11, and the payment will grow at a rate of 6% forever.

Suppose that the discount rate is 10%. The price that you have been asked to pay for this financial instrument is $3000. Is this a good price? (Show your work in detail)

*** You have to show your work to get credit.

Question No 3 (7 marks)

Your parents want to save for your little brother's college education and ask for your advice. Today, he just turned 7 years old and he will begin college exactly on his 18^{th} birthday. He needs to make his first annual tuition payment at the end of the first year of college (there are four equal annual payments for the four years of college). Your parents are going to invest $5000 each year starting at the end of the year (the first deposit occurs just before he turns 8 years old) for a total of 10 deposits. Assuming that the annual interest rate is 6% (assume that the rate is fixed for all the years including the four years of college), what is the maximum annual tuition that your parents can afford?