## NAME :

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## ID :

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## SUBJECT :

### BUSINESS FINANCE

## MAM MARIUM SALEEM

### DATE:

15th APRIL 2020

QUESTION: 1

(a) Ali deposited $2000 in a savings account. The annual interest rate is 8 percent, compounded semiannually. How many years will it take for his money to grow to $4765?

ANSWER:

Given data:

Pv = 2000

K = 8%

= 8/2

= 4%

Fv = 4765

n = ?

Pv = Fv x PVIF K,n

2000= 4765x PVIF k = 4x ,n

2000/4765= PVIF k = 4x ,n

PVIF K=4x n = 0.419727177

PVIF = 0.42

n = 22

Checking 0.42 in the present value

Take under 5%

So n= 22 years

(b) A payment of $100 per year forever is made with a discount rate of 10 percent. What is the present value of these payments?

ANSWER:

GIVEN DATA:

Present value of a perpetuity

PV =? Final value, FV = $100

Discount rate, i = 10%.

**Formula:**

Present value of a perpetuity = Final value ÷ Discount Rate.

PV = FV / i

Putting values;

PV = $100 **/** 0.1

PV = $1000.

QUESTION: 2

(a)Briefly explain the difference between real rate of interest and nominal interest rate with an example.

ANSWER:

REAL INTEREST RATE:

The real interest rate measures the percentage increase in purchasing power the lender receives when the borrower repays the loan with interest.. In our earlier example, the lender earned 8% or $8 on the $100 loan. However, because inflation was 5% over the same time period, the lender actually earned only 3% in real purchasing power or $3 on the $100 loan.

NOMINAL INTEREST RATE:

The nominal interest rate (or money interest rate) is the percentage increase in money you pay the lender for the use of the money you borrowed. For instance, imagine that you borrowed $100 from your bank one year ago at 8% interest on your loan. When you repay the loan, you must repay the $100 you borrowed plus $8 in interest—a total of $108.

|  |  |
| --- | --- |
| * **Nominal Interest Rate** | * **Real Interest Rate** |
| * Nominal interest rate does not include inflation effect | * Real Interest rates include inflation effect |
| * Nominal interest rate = Real Interest rate + Inflation rate | * Real Interest rate * = Nominal interest rate – Inflation rate |
| * Nominal interest rate cannot be less than zero | * Real interest rate can be less than zero * if inflation is more than nominal rates |

(b) Being an investor which market will you prefer, security exchanges or over-the-counter market? And why?

ANSWER:

As an investor I will incline toward over the counter (otc) instead of security trade market in light of the fact that otc is a decentralized dealer market where dealers and brokers transect directly with the assistance of computers and cell phones. You can without much of a stretch withdrawal your money at your finger tips it reduce transportation lost as well as physically goes to location , it is done electronically. In otc the short selling stocks are dangerous in light of the fact that it trade things. As there is no such thing in the security exchanges, you have to go to locations to transact your money .

QUESTION:3

1. Calculate the present valve of $40,000 to be received fifteen years from now at an annual discount rate of 10 percent.

ANSWER:

GIVEN DATA:

Future value, FV = $40,000

discount rate, i = 10%

No. of years, n = 15

present value, PV =?

SOLUTION:

PV = FV **/** (1+i)n

Putting values from data;

PV = $40,000 **/** (1+0.1)15

PV = $40,000 **/** 4.1772

PV = $9575.68

Present value, PV = $9575.68

(b)Give two daily life examples of ordinary annuity and annuity due and briefly explain why they are been categorized as either.

ANSWER:

**ORDINARY ANNUITY:**

An **ordinary annuity** is a series of equal payments made at the end of consecutive periods over a fixed length of time. While the payments in an **ordinary annuity** can be made as frequently as every week, in practice, they are generally made monthly.

EXAMPLE:

Interest payments from bonds, which are generally made semi-annually, and quarterly dividends from a stock that has maintained stable payout levels for years. The present value of an ordinary annuity is largely dependent on the prevailing interest rate.

**ANNUITY DUE:**

An **annuity due** is a repeating payment that is made at the beginning of each period, such as a rent payment. It has the following characteristics: All payments are in the same amount.

EXAMPLE:

such as a series of payments of $500 for renting a house. All payments are made at the same intervals of time (such as once a month or year)