# [Document subtitle]

### Abstract

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## Q1 (PART A) :

### SOLUTION :

$$PV = 2000$$

$$FV = 4765$$

$$K = 8\% \implies 8/2 = 4\%$$

$$PV = FV \times PV_1F (K, n)$$

$$2000 = 4765 \times PV_1F (4\%, n)$$

$$2000/4765 = PV_1F (4\%, n)$$

$$0.4197271773 = PV_1F (4\%, n)$$

$$CHECKING 0.41972 \text{ in present values table under } 4\%$$

$$0.419 = 0.42$$

$$n = 22 \text{ years}$$

## Q1 ( PART B ) :

### SOLUTION :

PMT = 100 i = 0.1 PVP = ? PVP = PMT × 1/i = 100 × 1/0.1

100 × 10 = 1000

## Q2 (PART A)

#### DIFFERENCE BETWEEN REAL RATE OF INTEREST AND NOMINAL INTEREST RATE

#### **ANSWER**:

#### **REAL RATE OF INTEREST:**

The real interest rate adjusts the observed market interest rate for the effects of inflation. The real interest rate reflects the purchasing power value of the interests paid on investment or loan and represents the rate of time preference of the borrower and lender.

REAL INTEREST RATE = NOMINAL INTEREST RATE – INFLATION RATE

#### HOW WE FIND REAL INTEREST RATE?

To find the real interest rate we take the nominal interest rate and

subtract the inflation rate.

#### EXAMPLE:

Let suppose , if a loan has a 12 percent interest rate and the inflation rate is 8 percent then the real return on that loan is 4 percent.

#### Q2 ( PART A ) :

#### NOMINAL INTEREST RATE :

Nominal interest rate is the interest rate before taking inflation into account. Nominal can also refers to the advertised or stated interest rate on a loan without taking into account any fees or compounding of interest.

#### FORMULA OF NOMINAL INTEREST RATE :

$$r = m \times [(1 + i)^{1/m} - 1].$$

#### EXAMPLE:

A bank loan available at 20 percent of interest rate. This face an interest rate of 20 percent is the nominal rate, it does not take fees or other charges in an account. Bond available at 8 percent is a coupon rate as it does not consider current inflation. This face interest of 8 percent is the nominal rate.

#### Q2 (PART B) :

#### MARKET WE WOULD LIKE TO PREFER:

#### ANSWER :

Being an investor I would prefer to over the counter market because in stalk exchange market the mediators are very few connecting buyers and sellers which result in high transactions cost or mediation cost. The situation places great power on mediation and this is a key disadvantage to this type of trading while the over counter market, there are many mediators who compete to link buyers to sellers. The advantage to this is that it ensure the cost of intermediaries services are as low as possible.

Over the counter market has over taken exchange market in term of volume traded daily.

Q3 (PART A ) :

#### SOLUTION :

FV = 40000 N = 15 K = 0.1  $PV = FV/(1 + K)^{n}$   $PV = 40000/(1 + 0.1)^{15}$   $PV = 40000/(1.1)^{15} => 40000/4.177248169$ 

PV = 9575.6819757

#### Q3 (PART B) :

#### **ANSWER**:

#### **ANNUITY :**

An annuity is a series of payments made or received over a predetermined period of time.

#### **ORDINARY ANNUITY**

- In an ordinary annuity payment are made at the end of a covered term
- These payments can be daily, weekly, monthly, quarterly, semi annually or annually

#### DAILY LIFE EXAMPLES OF ORDINARY ANNUITY :

**EXAMPLE 1** : I used to provide home tuition service to the children of class 5<sup>th</sup> to 12<sup>th</sup> and I Used to get 2000/RS per student at the of the month.

**Example 2** : I live in a society in which they charge 2000RS as maintenance and we pay it at the end of the month.

#### ANNUITY DUE :

These payments are made immediately or at the beginning of a cover term Rather than at the end of covered term.

**Example 1** : We pay for our new semester fees at the beginning of every semester.

**Example 2** : We pay for the internet(HOME WIFI) charges at every start of a month.