

Congratulations & Welcome....

■ Comilla Victoria
Govt College

BBA (Hons) 1st year

Course : Principles of
Finance

My Introduction (In brief)

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- Designation : Assistant professor
- Study : BBA, MBA (DU)
- BCS : 24th
- Home : Chandpur district (Kachua upazila)
- Children : One daughter, Two sons.
- Co-Writer : Mothers publications
(Accounting/Finance)
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Time value of money

One Tk of today is better than
one
Tk of tomorrow

Contents :

- Present value/ Discounting value
- Future value / Terminal value
- Simple interest
- Compound interest
- Ordinary annuity
- Annuity due
- Rules 72
- Rules 69
- Loan amortization schedule
- Effective interest rate

Determinants of time value of money

- Time period
- Interest
- Amount

Compounding may be :

- Half yearly
- Quaterly
- Monthly
- Bi-monthly
- Weekly
- Daily/ Continuously etc

Problem

- Mr kamal deposited Tk 1000 to prime bank at 15% interest. What will be the future value after 5 years if Interest is compounding
 - Half yearly
 - Quaterly
 - Monthly
 - Weekly

Problem (Lump sum)

- You will receive for next 4 years Tk2000, Tk 3000, Tk 5000, Tk 4000 consecutively. If the discount rate 10% what is the discounting value of current value of that amount?

Types of Annuity

- ❑ Ordinary annuity (At the end of the year)
- ❑ Annuity due/ Advance annuity (At the beginning of the year)
- ❑ Deferred annuity
- ❑ Perpetual annuity

Problem

- Your father has offered you a choice of one of the three following alternative:
 1. Tk 5000 now
 2. Tk 12000 at the end of 8 years
 3. Tk 1000 per year for 8 years

Which alternative should you choose ? Assume interest rate 11%.

PROBLEM

- WHAT IS THE SIMPLE INTEREST OF TK 10000 AT 5% INTEREST RATE FOR 4 YRS?
- AT 5% P.A IN WHAT TIME A FIXED SUM WILL BE TRIPLED IF INTEREST COMPOUNDED SEMI ANNUALLY.
- MR ASLAM DEPOSITED TK 200000 IN AGRANI BANK AT 10% ANNUAL INTEREST RATE. IF INTEREST IS COMPOUNDED SEMI ANNUALLY. CALCULATE THE EIR.

How to calculate Present value/Discounting value

- Lump sum/ Single amount
- Annuity:
 1. Ordinary Annuity(Year ending payment)
 2. Annuity due(Year beginning payment)

Problem(single amount)

- You are planning to buy a car next year that will cost tk 100000 at that time. If the interest rate is 18%, how much should you deposit now to get that amount?

Problem(Annuity)

- You will receive a pension Tk 8000 per year which will continue for five years. What the present value of that pension now?

Loan amortization schedule (From previous problem)

<u>Year</u>	<u>Op.Bal</u>	<u>Annuity</u>	<u>Interest</u>	<u>Principal</u>
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closing

PROBLEM

- In what time will sum of money of Tk 5000 will be doubled at 5% compound interest.
- At what % interest rate a sum of Tk 5000 will be doubled in 9 years.
- Find out the present value interest factor at 8% for 6 years.
- Calculate the present value of the following cash flows at an interest rate of 12% per year. Tk 100 received each year for 8 years.

Problem

- Taking loan of Tk 9000 from a bank a man was not able to pay it till the end of 4 years. Then the bank demanded Tk 11250 from him. How much % of interest compounded yearly on the demanded money he was paid?
- What is the future value interest factor annuity at 7% for 9 years?
- Which amount is worth more at 14% : Tk 1000 in hand today or Tk 2000 due in six years?

Problem

- Mr X wishes to create an endowment fund to provide an annual prize of Tk 600. If the fund is invested at 10% pa CI. Find the amount of this fund.
- The cost of new machine will be Tk 150000 after 14 years. In that time the old machine can be sold for Tk 7000 as salvage value. What amount should be retained out of profit at the end the each year to accumulate at CI at 5 % pa.

problem

- Exactly 10 years from now Mr Nusaib will start receiving a pension of Tk 4000 per year. The payment will continue for 15 years. How much is the pension worth now. Assume interest rate 10%
- Mr Mahfuz takes out a Tk 6000 for five years loan at 10%. The loan is payable at 5 annual installments. Prepare loan amortization schedule.

Problem

- A man borrowed tk 100000 at 10% compound interest. He agreed to pay this loan amount with interest by five equal installment . What is that installment amount?

Deferred annuity

- Exactly 10 years from now Mr X will start his pension amount of Tk 3000 which will continue for 16 years. If interest rate 10% how much the pension worth now?

Perpetual annuity

- Mr Nufail wants to give scholarship Tk 3000 a poor student each year. If discount rate is 10% what is the present value of that scholarship?

NO MORE TODAY

THANK YOU ALL