Lecture #15 Time value of money: Date/18/12/13

Capital:

"Word that can be used to produce more wealth is called capital"

Types:

1. Equity capital:

"It is the capital of company owner, who has invested their money in a business with a hope receiving a profit"

2. Borrowed capital/Debt capital:

"It is the capital that is obtained from other people as an investment.in return investor receives interest from borrowers for their investment"

Interest:

"Interest is the fee paid (when we borrow) or fee earned (when we give money) for the use of money"

Or

"Interest is the return on capital"

Why return on capital or interest?

- It provides investor a profit or interest to forgo the use of money during the time when it is used by someone else.
- Return on capital or interest are the payment for risks which on investor takes in allowing another person to use his money.

Principle amount:

"An initial amount of money in transaction is called principle amount"

Interest Rate:

"It measures the cost or price of money and it expressed as percentage per period of time or interest period"

Interest period:

"It determines how frequently interest is calculated but generally interest rate are coated in terms of an annual percentage rate"

Simple interest:

"When interest is earned on principle amount during each interest period. It is called simple interest"

P= Principle amount

N= Number of interest period

i= Interest rate/Interest period

I= Total interest

F= Future sum of money

$$F = P+I$$

$$I =(i*P)*N$$

So,

$$I=iPN$$

So,

$$F= P+i$$

$$= P+iPN$$

$$=P(I+iN)$$

Example:

P=100000

i=10%

N=3 years

As we know,

F=P(I+iN)

=100000(1+0.1*3)

=100000(1.3)

=1,3000

Compound interest:

“It means that interest earned in each period is calculated on the basis of total amount at the end of previous period. This total amount includes the original principle amount plus the equimilated interest on it”

F=P+iP

F=P(1+i) + [P(1+i)]

F=P(1+i)(1+i)

F=P(1+i)^2

F=P(1+i)^3

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F=P(1+i)^N

Example:

P=100000

i=10%

N=3 years

As we know,

$F=P(1+i)^N$

$F=100000(1+0.1)^3$

$F=100000(1.1)^3$

$F=100000(1.331)$

$F=13310$