**Compound Interest:** Sometimes it so happens that the borrower and the lender agree to fix up a certain unit of time, say *yearly* or *half-yearly* or *quarterly* to settle the previous account.

In such cases, the amount after first unit of time becomes the principal for the second unit,the amount after second unit becomes the principal for the third unit and so on.

**After a specified period, *the difference between the amount and the money borrowed is called the* Compound *Interest (abbreviated* as *C.I.) for that period.***

## IMPORTANT FACTS AND FORMULAE

**Let Principal = P, Rate = R% per annum, Time = n years.**

**I. When interest is compound Annually:**

$$\text{Amount} = P(1+R/100)^n$$

**II. When interest is compounded Half-yearly:**

$$\text{Amount} = P[1+(R/2)/100]^{2n}$$

**III. When interest is compounded Quarterly:**

$$\text{Amount} = P[1+(R/4)/100]^{4n}$$

**IV. When interest is compounded Annual1y but time is in fraction, say 3(2/5) years.**

$$\text{Amount} = P(1+R/100)^3 \times (1+(2R/5)/100)$$

**V. When Rates are different for different years, say Rl%, R2%, R3% for 1st, 2nd and 3rd year respectively.**

$$\text{Then, Amount} = P(1+R_1/100)(1+R_2/100)(1+R_3/100)$$

**VI. Present worth of Rs.x due *n* years hence is given by :**

$$\text{Present Worth} = x/(1+(R/100))^n$$