Simple Interest & Compound Interest

Important Formulae :- of Simple Interest

> $P \times i \times t$ (or) $\boxed{\frac{PTR}{100} = SI}$

> $\frac{I}{P} \Rightarrow \frac{I}{P}^{\times T}$ → Interest
> → Principal.

> $P = \frac{100 \times Amt}{100 + RT}$

> $n - 1 = \frac{RT}{100}$.

> $\frac{yrs}{yrs} \overset{\text{Cross mul}}{\nearrow\!\!\!\times\!\!\!\searrow} \frac{n-1}{n-1}$

Compound Interest :-

> $CI = P(1+i)^n - P$
> ↓
> $Amt = P(1+i)^n$

> If the Q is confusing, do it step by step like

> T. → Yrs.
> T → Yrs.

> Time $\Rightarrow \left(\frac{\%}{\%}\right) = \left(\frac{Amt}{Principal}\right)$

> Rate $\Rightarrow \left(\frac{Amt}{Principal}\right) = \left(\frac{correct}{cancel}\right) = \left(\frac{take\ root}{root}\right)$
> → convert into %

> Difference $= P \times \left(\frac{r}{100}\right)^n$

> Go with option in some cases.

> $P \Rightarrow A = P(1+i)^n - P \Rightarrow \frac{A}{(1+i)^n} = P$

Effective rate of Interest.

> Int = P x Effective x Time.

(or)

Effective ROI $= \frac{\text{Int}}{\text{Principal}}$.

> $E = (1+i)^n - 1$

Annuity (Future value) - Intstallments.

Annuity Regular → at end

annuity due / immed → at begining.

$A(n,i)$ = A – Annuity.
n – Time
i – Rate.

> $A(n,i) = A\left[\frac{(1+i)^n - 1}{i}\right]$

> Step 1 : Cal $A(n,i)$
Step 2 : multiply the result by $(1+i)$

Annuity (Present value) - lum Some.

> For finding Present value for a lum some Amt.

> $\frac{A - \text{lumsome Amt}}{(1+i)^n}$

> Annuity regular.

> $P(n,i) = \frac{(1+i)^n - 1}{i(1+i)^n}$

$A = \frac{V - \text{Loan / lumsome.}}{P(n,i)}$

> Annuity due / immediate.

Step 1 : find $P(n,i)$

Step 2 : $A = \frac{V}{P(n,i)}$

Step 3 : Add Initial cash deposit.

Leasing, capital Expenditure, Investment decision.

(Trick)

> Installment like amounts $\times P(n,i)$.