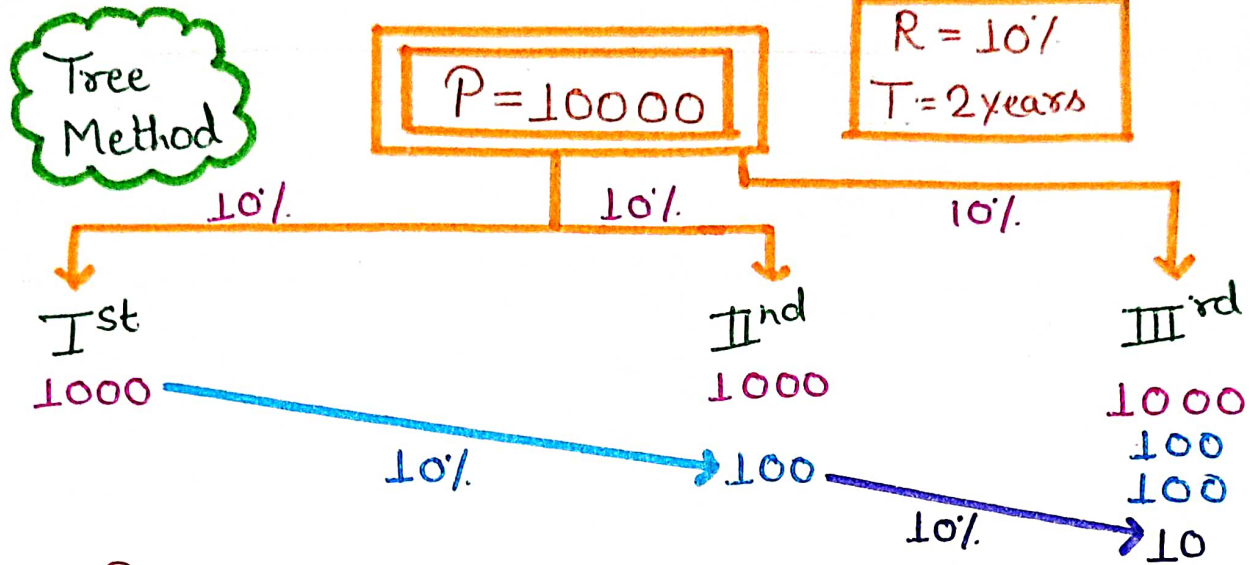


COMPOUND INTEREST (CI)



पहली साल का $SI = CI$

3 साल $SI = 3000$

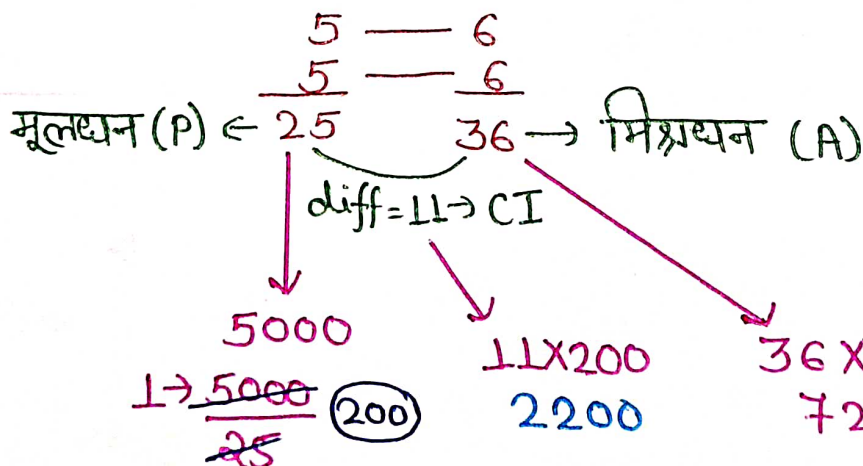
3 $CI = 3310$

2nd year $CI = 1100$

Ratio Method

Ex:- $P = 5000$
 $R = 20\%$ वार्षिक
 $T = 2$ वर्ष
 $CI = ?$

$$20\% = \frac{2}{10} = \frac{1}{5}$$



* Ex $A = 9800$
 $R = 16\frac{2}{3}\%$ वार्षिक
 $T = 2$ वर्ष
 $P = ?$
 $CI = ?$
 $16\frac{2}{3}\% = \frac{1}{6}$

$$\begin{array}{ccc}
 6 & \text{---} & 7 \\
 6 & \text{---} & 7 \\
 P \leftarrow \frac{6}{36} & & \frac{7}{49} \rightarrow A
 \end{array}$$

$\downarrow 13 \rightarrow CI$
 $\downarrow$
 $13 \times 200 = 2600$

$36 \times 200 = 7200$
 $9800 \rightarrow \frac{9800}{49} \times 200$

2 वर्ष CI का Formula

a% b%

$$2CI = a + b + \frac{a \times b}{100}$$

* Ex:- $R = 10\%$
 $T = 2$ वर्ष

$\bullet 2CI = 10 + 10 + \frac{10 \times 10}{100} = 20 + 1 = 21\%$
 $\bullet 2SI = 10\% \times 2 = 20\%$

$\bullet 2CI - 2SI$
 $21 - 20$
 1%

* Ex:- $R = 5\%$
 $T = 2$ वर्ष
 $2CI = ?$
 $\hookrightarrow$ effective Rate
 प्रभावी दर

ROJGAR WITH ANKIT

$$\bullet 2CI = 5 + 5 + \frac{5 \times 5}{100}$$

$$10 + \frac{25}{100}$$

$$10 + 0.25$$

$$10.25\%$$

$$\bullet 2SI = 5\% \times 2$$

$$10\%$$

$$\bullet 2CI - 2SI$$

$$10.25 - 10$$

$$0.25\%$$

Ratio Method

$$5\% = \frac{1}{20}$$

$$\begin{array}{r} 20 \text{ --- } 21 \\ \underline{20 \text{ --- } 21} \\ 400 \quad 441 \end{array}$$

$$CI = 41$$

$$\% = \frac{41}{400} \times 100 = 10.25\%$$

* Ex:- $R = 12\frac{1}{2}\%$

$$T = 2 \text{ yr}$$

$$2CI = ?$$

$$12\frac{1}{2}\% = \frac{1}{8}$$

$$\begin{array}{r} 8 \text{ --- } 9 \\ \underline{8 \text{ --- } 9} \\ 64 \quad 81 \end{array}$$

$$17$$

$$\% = \frac{17}{64} \times 100$$

$$16$$

$$\frac{425}{16}\% = 26.5\%$$

* Ex:- Ist year = $R_1 = 12\frac{1}{2}\%$

IInd year = $R_2 = 16\frac{2}{3}\%$

2 CI = ?

$12\frac{1}{2}\% = \frac{+1}{8}$ $16\frac{2}{3}\% = \frac{+1}{6}$

$$\begin{array}{r} 8 \text{ --- } 9 \\ 6 \text{ --- } 7 \\ \hline 48 \qquad 63 \end{array}$$

15
 $\% = \frac{15}{48} \times 100$
 $\frac{125}{4}\%$

$\frac{125}{4}\% = 31.25\%$

3 वर्ष के CI का Formula

a% b% c%

effective Rate: $\left[(a+b+c) + \frac{ab+bc+ac}{100} + \frac{abc}{10000} \right] \%$

* Ex:- $R = 10\%$

$T = 3$ वर्ष

3 CI = ?

10% 10% 10%

$30 + \frac{100+100+100}{100} + \frac{1000}{10000}$

$30 + \frac{300}{100} + 0.1$

• 3 CI = $30 + 3 + 0.1$
 33.1%

• 3 SI = $10\% \times 3$
 30%

• 3CI-3SI

33.1 - 30

3.1%

* Ex:- 2% 3% 4%

$$9 + \frac{6+12+8}{100} + \frac{24}{10000}$$

$$9 + \frac{26}{100} + 0.0024$$

$$9 + 0.26 + 0.0024$$

$$9.26 + 0.0024$$

$$9.2624\%$$