ASSIGNMENT

1 Let the sum be Rs. x. Then,

$$P\left[\left(1+\frac{R}{100}\right)^n - 1\right]$$

$$= x\left[\left(1+\frac{10}{100}\right)^2 - 1\right] = 525$$

$$= x\left[\left(\frac{11}{10}\right)^2 - 1\right] = 525$$

$$= x\left[\frac{121-100}{100}\right] = 525$$

$$= \frac{21x}{100} = 525$$

$$= 21x = 52500$$

$$= x = 2500$$

For S.I., P = Rs 2500, R% = 5 p.a and T = 4 years

Then S.I. $= \frac{2500 \times 5 \times 4}{100} = ₹500/-$

2 Principal = Rs 4000

time = 2 years

Rate = 10%

$$CI = P\left[\left(1+\frac{r}{100}\right)^n - 1\right]$$

$$= 4000\left[\left(1+\frac{10}{100}\right)^2 - 1\right]$$

$$= 4000\left[\left(\frac{11}{10}\right)^2 - 1\right]$$

$$= 4000\left[\frac{121-100}{100}\right]$$

$$= 4000 \times \frac{21}{100} = 840$$

S.I. $\Rightarrow \frac{840}{2} = \frac{24x}{100}$

$\Rightarrow 48x = 84000$

$\Rightarrow x = \frac{84000}{48} = 1750$

∴ The sum placed on simple interest is 1750

3 60% ~~ind~~ increase in 6 years, so rate is 10%.

Compound interest on Rs 12000 at 10% for 3 years

$= 12000\left[1+\frac{10}{100}\right]^3$

$= 15972$

Compound interest = Amount - Principal

$= 15972 - 12000$

CI = ₹3972/-

4 Principal = 15000/-

Time = 2 years

Rate of interest = R

~~The~~ Here is the explanation:-

$$\Rightarrow \left[15000 \times \left(1+\frac{R^2}{100}\right)2 - 1\right] - \left(\frac{15000 \times R \times 2}{100}\right) = 96$$

$$\Rightarrow 15000\left[\left(1+\frac{R}{100}\right)^2 - 1 - \frac{2R}{100}\right] = 96$$

$$\Rightarrow 15000\left[\frac{(100+R)^2 - 10000 - (200 \times R}{10000}\right] = 96$$

$$\Rightarrow R^2 = \left[\frac{96 \times 2}{3}\right] = 64$$

$$\Rightarrow R = 8$$

2 ∴ Rate of interest = 8%.