

⑥ $P = \text{Rs } 9000$, $t = 2 \text{ years } 4 \text{ months}$, $r = 10\% \text{ p.a}$

$$\begin{aligned} \text{amount} &= P \left(\frac{100+r}{100} \right)^2 \left(\frac{100+r/3}{100} \right) \\ &= P \left(\frac{100+10}{100} \right)^2 \left(\frac{100+\frac{10}{3}}{100} \right) \end{aligned}$$

$$= 9000 \times \left(\frac{110}{100} \right)^2 \times \frac{300+10}{300}$$

$$= 9000 \times \frac{11}{10} \times \frac{11}{10} \times \frac{310}{300}$$

$$= \text{Rs } 11253$$

$$\begin{aligned} \text{CI} &= 11253 - 9000 \\ &= \text{Rs } 2253 \end{aligned}$$

⑦ $P = \text{Rs } 8000$, $t = 2 \text{ years}$, $r_1 = 9\% \text{ p.a}$, $r_2 = 10\% \text{ p.a}$

$$\begin{aligned} \text{amount} &= P \left(1 + \frac{r_1}{100} \right) \left(1 + \frac{r_2}{100} \right) \\ &= 8000 \left(1 + \frac{9}{100} \right) \left(1 + \frac{10}{100} \right) \end{aligned}$$

$$= 8000 \times \frac{109}{100} \times \frac{110}{100}$$

$$= \text{Rs } 9592$$

⑧ loan obtained = Rs 125000, $r = 8\% \text{ p.a}$
 $t = 3 \text{ years}$

$$\begin{aligned} \text{amount for clearing debt} &= P \left(\frac{100+r}{100} \right)^n \\ &= 125000 \left(\frac{108}{100} \right)^3 \times \frac{108}{100} \times \frac{108}{100} \end{aligned}$$

$$= \text{Rs } 157464-00$$