

COMPOUND INTEREST

Yearly:-

$$A = P \left(1 + \frac{R}{100}\right)^n$$

$$A = P + RC$$

$$C = A - P$$

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

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

Half yearly:-

$$A = P \left(1 + \frac{R/2}{100}\right)^n$$

$$C = P \left[\left(1 + \frac{R}{200}\right)^{2n} - 1 \right]$$

Quarterly:-

$$A = P \left(1 + \frac{R/4}{100}\right)^n$$

$$C = P \left[\left(1 + \frac{R}{400}\right)^{4n} - 1 \right]$$

P. 9 NOV-87

3. Given $n = 2$ years $R = 12\frac{1}{2} = \frac{25}{2}\%$ $C = 510$

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

$$510 = P \left[\left(1 + \frac{12.5}{100} \right)^2 - 1 \right]$$

$$P = 1920$$

$$R = \frac{25}{2}\%$$

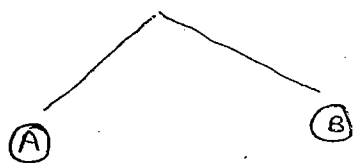
$$T = 2 \text{ years}$$

$$I = ?$$

$$I = \frac{PTR}{100} = \frac{1920 \times 2 \times 12.5}{100} = 480 \text{ RS.}$$

4.

27000, $C = 4818.30$ RS.



$$R = 8\%$$

$$R = 9\%$$

$$n = 2 \text{ yrs}$$

$$n = 2 \text{ yrs}$$

$$P = x$$

$$P = (27000 - x)$$

$$x \left[\left(1 + \frac{8}{100} \right)^2 - 1 \right] + (27000 - x) \left[\left(1 + \frac{9}{100} \right)^2 - 1 \right] = 4818.30$$

$$x = 12000$$

5.

$$A = 12500 \left(1 + \frac{20}{100} \right)^3 - \left[2000 + 2000 \left(1 + \frac{20}{100} \right)^1 + 2000 \left(1 + \frac{20}{100} \right)^2 \right]$$

$$= 14520$$