Compound Interest Ex 14.4 Q10

Answer:

Population at the end of the year $2000 = P\left(1 + \frac{R_1}{100}\right)\left(1 - \frac{R_2}{100}\right)$

$= 72,000\left(1 + \frac{7}{100}\right)\left(1 - \frac{10}{100}\right)$

$= 72,000(1.07)(0.9)$

$= 69,336$

Thus, the population at the end of the year 2000 was 69,336.

Compound Interest Ex 14.4 Q11

Answer:

Number of workers $= 6,400$

At the end of the first year, 25% of the workers were retrenched.

$\therefore$ 25% of $6,400 = 1,600$

Number of workers at the end of the first year $= 6,400 - 1,600 = 4,800$

At the end of the second year, 25% of those working were retrenched.

$\therefore$ 25% of $4,800 = 1,200$

Number of workers at the end of the second year $= 4,800 - 1,200 = 3,600$

At the end of the third year, 25% of those working increased.

$\therefore$ 25% of $3,600 = 900$

Number of workers at the end of the third year $= 3,600 + 900 = 4,500$

Thus, the number of workers during the fourth year was 4,500.

Compound Interest Ex 14.4 Q12

Answer:

Aman's profit for three years $= P\left(1 - \frac{R_1}{100}\right)\left(1 + \frac{R_2}{100}\right)\left(1 + \frac{R_3}{100}\right)$

$= 100,000\left(1 - \frac{5}{100}\right)\left(1 + \frac{10}{100}\right)\left(1 + \frac{12}{100}\right)$

$= 100,000(0.95)(1.10)(1.12)$

$= 117,040$

$\therefore$ Net profit $= $ Rs $117,040 - $ Rs $100,000$

$\qquad\qquad = $ Rs $17,040$

********** END *********