(16) $\bar{x} = \frac{x_1+x_2+x_3+\ldots+x_n}{n}$

$\Rightarrow n\bar{x} = x_1+x_2+x_3+\ldots+x_n \quad \ldots (1)$

$$\text{reqd. Mean} = \frac{ax_1+ax_2+ax_3+\ldots+ax_n+\frac{x_1}{a}+\frac{x_2}{a}+\frac{x_3}{a}+\ldots+\frac{x_n}{a}}{2n}$$

$$= \frac{a(x_1+x_2+x_3+\ldots+x_n)+\frac{1}{a}(x_1+x_2+x_3+\ldots+x_n)}{2n}$$

$$= \frac{an\bar{x}+\frac{n\bar{x}}{a}}{2n}$$

$$\frac{n\bar{x}\left(a+\frac{1}{a}\right)}{2n} \quad (B)$$

(17)

$\bar{x}_1 = x_1+x_2+x_3+\ldots+x_{n_1}$

$\Rightarrow n_1\bar{x}_1 = x_1+x_2+x_3+\ldots+x_{n_1} \quad \ldots (1)$

Sol $n_2\bar{x}_2 = x_1+x_2+x_3+\ldots+x_{n_2} \quad \ldots (2)$

$n_3\bar{x}_3 = x_1+x_2+x_3+\ldots+x_{n_3} \quad \ldots (3)$

$\vdots$

$n_m\bar{x} = x_1+x_2+x_3+\ldots+x_{n_m} \quad \ldots (m)$

$$\bar{x} = \frac{n_1\bar{x}_1+n_2\bar{x}_2+n_3\bar{x}_3+\ldots+n_m\bar{x}_m}{n_1+n_2+n_3+\ldots+n_n}$$

(C)

$$= \frac{\sum_{i=1}^{m} n_i\bar{x}_i}{\sum_{i=1}^{m} n_i}$$