Ans/7

Mean by step deviation method

C.I	x	f	$d = x - \frac{40}{10}$	fd	fd^2
15-25	20	5	-20	-100	2000
25-35	30	10	-10	-100	1000
35-45	40	18	0	0	0
45-55	50	15	10	150	1500
55-65	60	0	20	0	0
65-75	70	3	30	90	2700
		51		40	7200

Let assumed mean = $a = 40$

Then Mean $\bar{x} = a + \frac{\Sigma fd}{\Sigma f}$

$= 40 + \frac{40}{51} 1.27$

$= 40 + 1.27$

$= 41.27$

$S.D = \sqrt{\frac{\Sigma fd^2}{N} - \left[\frac{\Sigma fd}{N}\right]^2}$

$$S.D = \sqrt{\frac{7300}{51} - \left(\frac{90}{51}\right)^2}$$

$$= \sqrt{141.17 - (1.27)^2}$$

$$= \sqrt{141.17 - 1.61}$$

$$= \sqrt{139.56}$$

$$= 11.81 \text{ ans}$$