

Q4 Calculate D_3 , D_5 & D_7 from the following table -

Vacancies Available	0-10	10-20	20-30	30-40	40-50	50-60
No. of Employees	22	36	15	11	9	7

Sol: \rightarrow Decile = $\frac{K(n)}{10}$ term

Vacancies Available	No. of Employees	C.F.
0-10	22	22
10-20	36	58
20-30	15	73
30-40	11	84
40-50	9	93
50-60	7	100

$$\Sigma F = 100$$

$$D_3 = \frac{3(6)}{10} = \frac{18}{10}$$

$$D_3 = 1.8$$

$$D_3 = L_1 + \frac{K(N/10) - c.F}{f} \times i$$

$$= 0 + \frac{1.8 - 0}{22} \times 10$$

$$= \frac{18}{22}$$

$$D_3 = 0.81$$

$$D_5 = \frac{K(N)}{10} = \frac{5(6)}{10} = \frac{30}{10} \quad \boxed{D_5 = 3}$$

$$D_5 = L_1 + \frac{K(N/10) - C.F. \times L_1}{22}$$

$$= 0 + \frac{3 - 0}{22} \times 10$$

$$= \frac{3 \times 10}{22} = \frac{30}{22} = 1.36$$

$$\boxed{D_5 = 1.36}$$

$$D_7 = \frac{K(N)}{10} = \frac{7(6)}{10} = \frac{42}{10} \quad \boxed{D_7 = 4.2}$$

$$D_7 = L_1 + \frac{K(N/10) - C.F. \times L_1}{22}$$

$$= 0 + \frac{4.2 - 0}{22} \times 10$$

$$= \frac{4.2 \times 10}{22}$$

$$= \frac{42}{22} = \boxed{D_7 = 1.9}$$

$$\boxed{D_3 = 0.81} ; \boxed{D_5 = 1.36}$$

$$; \boxed{D_7 = 1.9}$$