

Group B						
C-I	F _B	X	f _{2x}	x - \bar{x}	(x - \bar{x}) ²	f(x - \bar{x})
1-5	2	3	6	-17.14	293.7796	587.5592
6-10	4	8	32	-12.14	147.3996	589.8594
11-15	7	13	91	-7.14	50.9796	356.8572
16-20	20	18	360	-0.14	0.0196	0.592
21-25	16	23	368	2.86	8.1796	130.5136
26-30	10	28	280	7.86	61.7796	617.796
31-35	4	33	132	12.86	165.3796	661.5184
	63		1269			2944.548

$$\text{Mean of Group B } (\bar{x}) = \frac{\sum f_2x}{\sum f_B} = \frac{1269}{63} = 20.14$$

$$\text{Standard deviation of Group B } (s_D) = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f_B - 1}}$$

$$= \sqrt{\frac{2944.548}{63 - 1}}$$

$$= \sqrt{47.492} = 6.89$$

(ii) Coefficient of variation of Group B

$$\frac{s_D}{\text{Mean}} \times 100 = \frac{6.89}{20.14} \times 100 = 34.2\%$$

(iii) Group A has less variable distribution.

Group A

CI	F_i	x	$F_i x$	$x - \bar{x}$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
1-5	0	3	0	14.83	219.9289	0
6-10	7	8	356	9.83	96.6289	676.4023
11-15	10	13	130	-4.83	23.3289	233.289
16-20	2	18	36	0.17	0.0289	0.0518
21-25	1	23	23	5.17	26.7289	26.7289
26-30	5	28	140	10.17	103.4289	517.1445
31-35	4	33	132	15.17	230.1289	920.5156
Σ	29		517			2374.1381

Mean of group A (\bar{x}) = $\frac{\Sigma f_i x}{\Sigma f_i} = \frac{517}{29} = 17.83$

Standard deviation of Group A (S.D) = $\sqrt{\frac{\Sigma f_i (x - \bar{x})^2}{\Sigma f_i - 1}}$

$$= \sqrt{\frac{2374.1381}{29-1}} = \sqrt{\frac{84.457075}{29.21}} = \sqrt{84.7910}$$

(ii) Co-efficient of Variation

$$\frac{S.D}{\text{mean}} \times 100 = \frac{9.21}{17.83} \times 100 = 51.65\%$$