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Date Submitted: 7th April, 2020

C.I	Group A (f)	Mid Value (x)	xf	$x - \bar{x}$	$(x - \bar{x})^2$	$f(x - \bar{x})^2$
1 - 5	0	3	0	14.8	219.04	0
6 - 10	7	8	56	9.8	96.04	672.28
11 - 15	10	13	130	4.8	23.04	230.4
16 - 20	2	18	36	0.2	0.04	0.08
21 - 25	1	23	23	5.2	27.04	27.04
26 - 30	5	28	140	10.2	104.04	520.2
31 - 35	4	33	132	15.2	231.04	924.16
	$\sum f = 29$		$\sum xf = 517$			$\sum f(x - \bar{x})^2 = 2378.16$

$$\text{Mean } (\bar{x}) = \frac{\sum xf}{\sum f} = \frac{517}{29} = 17.83 \approx 17.8$$

$$\text{Variance } \sigma^2 = \frac{\sum f(x - \bar{x})^2}{\sum f} = \frac{2378.16}{29}$$

$$\sigma^2 = 82.0$$

$$\text{S.D} = \sqrt{\sigma^2}$$

$$= \sqrt{82} = 9.0554 \approx 9.06$$

Standard deviation for group A = 9.06

Mean for group A = 17.8



C.I	Group B (f)	mid values (x)	fx	x - $\bar{x}$	x - $\bar{x}$   <sup>2</sup>	f x - $\bar{x}$   <sup>2</sup>
1-5	2	3	6	17.1	292.41	584.82
6-10	4	8	32	12.1	146.41	585.64
11-15	7	13	91	7.1	50.41	352.87
16-20	20	18	360	2.1	4.41	88.2
21-25	16	23	368	2.9	8.41	134.56
26-30	10	28	280	7.9	62.41	624.1
31-35	4	33	132	12.9	166.41	665.64
	$\Sigma f = 63$		1269			3035.83

$$\text{Mean } (\bar{x}) = \frac{\Sigma fx}{\Sigma f} = \frac{1269}{63} = 20.14 \approx 20.1$$

for Group B

$$\text{Variance } \sigma^2 = \frac{\Sigma f |x - \bar{x}|^2}{\Sigma f} = \frac{3035.83}{63}$$

$$= 48.187 \approx 48.2$$

$$\text{Standard Deviation (S.D.)} = \sqrt{\sigma^2}$$

for Group B

$$= \sqrt{48.2} = 6.942$$

$$\approx 6.95$$

ii) Coefficient Variation for group A and group B

$$CV_A = \frac{S.D.}{\text{Mean}} \times 100 = \frac{9.06}{17.8} \times 100$$

$$= 50.89\%$$

$$CV_B = \frac{S.D.}{\text{Mean}} \times 100 = \frac{6.95}{20.1} \times 100$$

$$= 34.577 \approx 34.58\%$$



iii Group B has less variable distribution since its coefficient of distribution is less than that of A