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Course Code

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For Group A D

C-I	f	x	fx	f(x - $\bar{x}$ ) <sup>2</sup>
1-5	0	3	0	0(3-17.8) <sup>2</sup> = 0
6-10	7	8	56	7(8-17.8) <sup>2</sup> = 672.28
11-15	10	13	130	10(13-17.8) <sup>2</sup> = 230.4
16-20	2	18	36	2(18-17.8) <sup>2</sup> = <del>0.08</del> 0.08
21-25	1	23	23	1(23-17.8) <sup>2</sup> = <del>27.04</del> 27.04
26-30	5	28	140	5(28-17.8) <sup>2</sup> = 520.2
31-35	4	33	132	4(33-17.8) <sup>2</sup> = 924.16

$$n = 24, \sum f = 24, \sum fx = 517, \sum f(x - \bar{x})^2 = 2374.16$$

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{517}{29} \quad \bar{x} = 17.8_{11}$$

$$\text{Variance} = \frac{\sum f(x - \bar{x})^2}{\sum f} = \frac{2374.16}{29}$$

$$\text{Variance} = 81.9$$

$$\text{Standard deviation} = \sqrt{\text{Variance}}$$
$$= \sqrt{81.9}$$

$$\text{Standard deviation} = 9.05_{11}$$



For group B D

C.I	f	x	fx	$f(x-\bar{x})^2$
1-5	2	3	6	$2(3-20.1)^2 = 584.82$
6-10	4	8	32	$4(8-20.1)^2 = 585.64$
11-15	7	13	91	$7(13-20.1)^2 = 352.87$
16-20	20	18	360	$20(18-20.1)^2 = 88.2$
21-25	16	23	368	$16(23-20.1)^2 = 134.56$
26-30	10	28	280	$10(28-20.1)^2 = 624.1$
31-35	4	33	132	$4(33-20.1)^2 = 665.64$

$$\sum f = 63 \quad \sum fx = 1269 \quad \sum f(x-\bar{x})^2 = 3035.83$$

$$\bar{x} = \frac{\sum fx}{\sum f} = \frac{1269}{63} \quad \text{Mean } \bar{x} = 20.14$$

$$\text{Variance} = \frac{\sum f(x-\bar{x})^2}{\sum f} = \frac{3035.83}{63}$$

$$\text{Variance} = 48.2$$

$$\text{Standard deviation} = \sqrt{\text{Variance}}$$

$$= \sqrt{48.2}$$

$$S.D = 6.94$$

Group A

$$\begin{aligned}\text{Coefficient of variation} &= \frac{\text{S.D}}{\text{mean}} \times \frac{100}{1} \\ &= \frac{9.05}{17.8} \times 100\end{aligned}$$

$$C.V = 50.8\%$$

For group B

$$\begin{aligned}\text{Coefficient of variation} &= \frac{\text{S.D}}{\text{mean}} \times \frac{100}{1} \\ &= \frac{6.94}{20.1} \times 100\end{aligned}$$

$$C.V = 34.5\%$$

ii) Group B has a less variable distribution and it is more uniform and homogeneous