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Aeronautical & Astronautical Engineering

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Assignment Answer

## Group A

$x$	$f$	$fx$	$ x - \bar{x} $	$f x - \bar{x} ^2$
3	0	0	14.8	0
8	7	56	9.8	672.28
13	10	130	4.8	230.4
18	2	36	0.2	0.08
23	1	23	5.2	27.04
28	5	140	10.2	820.2
33	4	132	15.2	924.16
	29	517		2374.16

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

$$S.D = \sqrt{\frac{\sum f |x - \bar{x}|^2}{\sum f - 1}} = \sqrt{\frac{2374.16}{29 - 1}}$$

$$= \sqrt{\frac{2374.16}{28}} = \sqrt{84.79}$$

$$= 9.2$$

ans.

$$C.V. = \frac{S.D}{\bar{x}} \times \frac{100}{1} = \frac{9.2}{17.8} \times 100 = 51.7$$



## Group B

$x$	$f$	$fx$	$ x - \bar{x} $	$ x - \bar{x} ^2$	$f x - \bar{x} ^2$
3	2	6	17.14	293.7796	587.5592
8	4	32	12.14	147.3796	589.5184
13	7	91	7.14	50.9796	356.8572
18	20	360	2.14	4.5796	91.592
23	16	368	2.86	8.1796	130.8736
28	10	280	7.86	61.7796	617.796
33	4	132	12.86	165.3796	661.5184
	63	1269			3035.7148

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

$$S.D = \sqrt{\frac{\sum f|x - \bar{x}|^2}{\sum f - 1}} = \sqrt{\frac{3035.7148}{63 - 1}}$$

$$= \sqrt{\frac{3035.7148}{62}} = \sqrt{48.96} = 6.99$$

$$C.V \text{ of } B = \frac{7}{20.14} \times \frac{100}{1} = 34.3$$

Group B has less variable distribution than Group A.