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Dept: Computer Science

Course: STA 132

Group A

CI	F_A	x	$F_A x$	$(x-\bar{x})$	$(x-\bar{x})^2$	$F(x-\bar{x})^2$
1-5	0	3	0	-16.8	219.04	0
6-10	9	8	56	-9.8	96.04	672.28
11-15	10	13	130	-6.8	23.04	233.04
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	520.02	520.02
31-35	4	33	132	15.2	924.16	924.16
	$\Sigma f_A = 29$		$\Sigma f_A x = 519$			$\Sigma f(x-\bar{x})^2 = 2373.98$

① Mean $= \frac{\Sigma fx}{\Sigma f}$

$= \frac{519}{29}$

$\bar{x} = 17.8$

② $S.D = \sqrt{\frac{\Sigma f(x-\bar{x})^2}{\Sigma f}} = \sqrt{\frac{2373}{29}} = \sqrt{81.86} = 9.047$

③ $CV = \frac{SD}{\bar{x}} \times 100$

$= \frac{9.047}{17.8} \times 100$

$CV = 52\%$

Group B

Cl	F_B	x	$F_B x$	$(x-\bar{x})$	$(x-\bar{x})^2$	$F(x-\bar{x})^2$
1-5	2	3	6	-17.14	293.37	589.54
6-10	4	8	12	-12.14	147.37	584.48
11-15	7	13	91	-7.14	50.37	356.79
16-20	20	18	360	-2.14	4.57	91.40
21-25	16	23	358	2.86	8.19	130.72
26-30	10	28	280	7.86	61.19	617.70
31-35	4	38	132	12.86	165.39	661.48
	$\Sigma f_B = 63$		$\Sigma f_B x = 1269$			$\Sigma f(x-\bar{x})^2 = 3035.4$

1 Mean $= \frac{\Sigma fx}{\Sigma f}$

$= \frac{1269}{63} = 20.14$

② $S.\Delta = \sqrt{\frac{\Sigma f(x-\bar{x})^2}{\Sigma f}}$

$= \sqrt{\frac{3035.4}{63}}$

$= \sqrt{48.17} = 6.940$

③ $CV = \frac{S\Delta}{\bar{x}} \times 100\%$

$= \frac{6.940}{20.14} \times 100 = 34.45\%$

(b) The group with the less variable distribution is Group A.