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COMPUTER ENGINEERING

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LAB FOR INFERENCE 1

STA 132.

GROUP A

CL	f	x	fx	$(x-\bar{x})$	$(x-\bar{x})^2$	$f(x-\bar{x})^2$
1-5	0	3	0	-17.83	317.91	0
6-10	7	8	56	-9.83	96.63	676.41
11-15	10	13	130	-4.83	23.33	233.3
16-20	2	18	36	0.17	0.03	0.06
21-25	1	23	23	5.17	26.73	26.73
26-30	5	28	140	10.17	103.43	517.15
31-35	4	33	132	15.17	230.15	920.52
	29		517			2374.17

i) Mean $= \frac{\Sigma fx}{\Sigma f} = \frac{517}{29} = 17.83$

ii) standard deviation $s = \sqrt{\frac{\Sigma f(x-\bar{x})^2}{\Sigma f - 1}}$

$= \sqrt{\frac{2374.17}{28}} = 9.21$

ii) Coefficient of variation, C.V = $\frac{S.D}{mean} \times 100$

$= \frac{9.21}{17.83} \times 100$

$= 51.63$ //

GROUP B.

Cl	F	x	fx	$(x - \bar{x})$	$(x - \bar{x})^2$	$f(x-\bar{x})^2$
1–5	2	3	6	−17.14	293.78	587.56
6–10	4	8	32	−12.14	147.38	589.52
11–15	7	13	91	−7.14	50.98	356.86
16–20	20	18	360	−2.14	4.58	91.60
21–25	16	23	368	−4.14	17.14	274.24
26–30	10	28	280	−10.14	102.82	1028.20
31–35	4	33	132	−16.14	260.50	1042.00
$\Sigma f = 63$			$\Sigma fx = 1269$			$\Sigma f(x-\bar{x})^2 = 3969.98$

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

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

S.D, $S = \sqrt{\frac{\Sigma f(x-\bar{x})^2}{\Sigma f - 1}}$

$$= \sqrt{\frac{3969.98}{62}}$$

$$= 8.00$$ //

iii) coefficient of variation, $C.V = \frac{S.D \times 100}{mean}$

$$= \frac{8.00 \times 100}{20.14}$$

$$= 39.72$$

c) Group B has less variable distribution.