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19/EN602/017

COMPUTER ENGINEERING

Due - 02/04/2020

STAT

GROUP A

CI	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	230.13	926.52
	$\Sigma f = 29$		$\Sigma fx = 517$			$\Sigma f(x - \bar{x})^2 = 2374.17$

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

$$\text{Standard Deviation} = \sqrt{\frac{\Sigma f(x - \bar{x})^2}{\Sigma f - 1}}$$

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

$$= 9.21$$

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

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

$$= 51.65$$

GROUP B

CI	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
Σf	63		Σfx			$\Sigma f(x - \bar{x})^2$
			1269			3969.98

$$\text{Mean} = \frac{\sum fx}{\sum f}$$

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

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

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

$$= \underline{8.00}$$

(iii) Coefficient of Variation, $CV = \frac{\text{S.D}}{\text{mean}} \times 100$

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

$$= 39.72\%$$

(c) Group B has less variable distribution.