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DEPARTMENT: COMPUTER SCIENCE

MATRIC NO: 19-SCIO1-039

GROUP A						
CLASS INTERVAL	FREQUENCY	$x$	$fx$	$ x - \bar{x} $	$ x - \bar{x} ^2$	$f x - \bar{x} ^2$
1-5	0	3	0	14.83	219.9289	0
5-10	7	8	56	9.83	96.6289	676.4023
11-15	10	13	130	4.83	23.3289	233.2890
16-20	2	18	36	0.17	0.0284	0.0578
21-25	1	23	23	5.17	26.7289	26.7289
26-30	5	28	140	10.17	103.4289	517.1445
31-35	4	33	132	15.17	230.1289	920.5156
	$\Sigma f = 29$		$\Sigma fx = 517$			2374.1381

$$\begin{aligned} \text{i) MEAN } (\bar{x}) &= \frac{\Sigma fx}{\Sigma f} = \frac{517}{29} \\ &= \underline{\underline{17.83}} \end{aligned}$$

$$\begin{aligned} \text{VARIANCE} &= \frac{\Sigma f|x - \bar{x}|^2}{\Sigma f} = \frac{2374.1381}{29} \\ &= \underline{\underline{81.867}} \end{aligned}$$

$$\begin{aligned} \text{STANDARD DEVIATION} &= \sqrt{\text{VARIANCE}} = \sqrt{81.867} \\ &= \underline{\underline{9.048}} \end{aligned}$$

$$\begin{aligned} \text{ii) COEFFICIENT OF VARIATION} &= \frac{\text{STANDARD DEVIATION}}{\text{MEAN}} \times 100\% \\ &= \frac{9.048}{17.83} \times 100\% \\ &= \underline{\underline{50.75\%}} \end{aligned}$$

### Group B

CLASS INTERVAL	FREQUENCY	$x$	$fx$	$ x - \bar{x} ^2$	$ x - \bar{x} $	$f x - \bar{x} ^2$
1-5	2	3	6	293.7796	17.14	587.5592
6-10	4	8	32	147.3796	12.14	589.5184
11-15	7	13	91	50.9796	7.14	356.8572
16-20	20	18	360	4.5796	2.14	91.5920
21-25	16	23	368	8.1796	2.86	130.8736
26-30	10	28	280	61.7796	7.86	617.796
31-35	4	33	132	165.3796	12.86	661.5184
	$\Sigma f = 63$		$\Sigma fx = 1269$			$\Sigma = 3035.7148$

$$i) \text{MEAN}(\bar{x}) = \frac{\Sigma fx}{\Sigma f} = \frac{1269}{63} = 20.14$$

$$\text{VARIANCE} = \frac{\Sigma f|x - \bar{x}|^2}{\Sigma f}$$

$$= \frac{3035.7148}{63} = 48.186$$

$$\text{STANDARD DEVIATION} = \sqrt{\text{VARIANCE}}$$

$$= \sqrt{48.186} = 6.942$$

$$ii) \text{COEFFICIENT OF VARIATION} = \frac{\text{STANDARD DEVIATION}}{\bar{x}} \times 100\%$$

$$= \frac{6.942}{20.14} \times 100\%$$

$$= 34.47\%$$

iii) The group which has less variable distribution is group B.