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Department: Computer Engineering

Matric No: 19/ENG-02/059

Course Code: STA 132

Group A

| $cu$  | $f$                | $x$ | $fx$                 | $(x - \bar{x})$ | $(x - \bar{x})^2$ | $f(x - \bar{x})^2$                     |
|-------|--------------------|-----|----------------------|-----------------|-------------------|--|
| 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            | 920.52                                 |
|       | $\Sigma f =$<br>29 |     | $\Sigma fx =$<br>517 |                 |                   | $\Sigma f(x - \bar{x})^2 =$<br>2374.17 |

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

ii.) S.D =  $\sqrt{\frac{\Sigma f(x - \bar{x})^2}{\Sigma f - 1}}$   
 $= \sqrt{\frac{2374.17}{28}} = 9.21 //$

iii.) Coefficient of Variation, C.V =  $\frac{S.D}{\text{Mean}} \times 100$   
 $= \frac{9.21}{17.83} \times 100$   
 $= 51.65 //$

## 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                              |
|       | $\Sigma f =$<br>63 |    | $\Sigma fx =$<br>1269 |                 |                   | $\Sigma f(x - \bar{x})^2$<br>3969.98 |

$$\text{Mean} = \frac{\Sigma fx}{\Sigma f} = \frac{1269}{63} = 20.14$$

$$\text{S.D., } s = \frac{\sqrt{\Sigma f(x - \bar{x})^2}}{\sqrt{\Sigma f - 1}} = \frac{\sqrt{3969.98}}{\sqrt{62}} = 8.00 //$$

$$\begin{aligned} \text{iii.) Coefficient of Variation, C.V.} &= \frac{\text{S.D.}}{\text{mean}} \times 100 \\ &= \frac{8.00}{20.14} \times 100 \\ &= 39.72 // \end{aligned}$$

c) Group B has less variable distribution.