NAME: NWAIWU SYLVESTER CHUCKWUKA.U

REG NO: 19/ENG05/042

DEPARTMENT: MECHATRONICS

COURSE TITLE: LAB FOR INFERENCE 1

COURSE CODE: STA 132

LECTURERS: MR ADEJUWON, SAMUEL OLUWASEUN

 ASSIGNMENT

For Group A

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class level | F | Mid point (x) | fx | Fx2 |
| 1-5 | 0 | 3 | 0 | 0 |
| 6-10 | 7 | 8 | 56 | 448 |
| 11-15 | 10 | 13 | 130 | 1690 |
| 16-20 | 2 | 18 | 36 | 648 |
| 21-25 | 1 | 23 | 23 | 529 |
| 26-30 | 5 | 28 | 140 | 3920 |
| 31-35 | 4 | 33 | 132 | 4356 |
| total | 29 |  | 517 | 115291 |

X=lower class limit + upper class limit 2

# Mean=£fx n

 517 =17.83 appx. 29

## Standard deviation = $√\frac{εfx^{2}\\_(\begin{array}{c}εfx)\\n\end{array}^{2}}{n-1}$

$$=\frac{115291-\frac{(517)^{2}}{29}}{29-1}$$

 = $\frac{115291-9216.865}{28}$

 = 3788.36

 S.D= √3788.36 =61.52.

## 2. Coefficient Of Variation =$\frac{S.D}{\overbar{x}}$ × 100%

 =$\frac{61.5}{17.83}×100\%$ =3.449$×100\%$ =344.9

 =345% appx.

For Group B

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Class level | f | Mid point(x) | fx | Fx2 |
| 1-5 | 2 | 3 | 6 | 18 |
| 6-10 | 4 | 8 | 32 | 256 |
| 11-15 | 7 | 13 | 91 | 1183 |
| 16-20 | 20 | 18 | 360 | 6480 |
| 21-25 | 16 | 23 | 368 | 8464 |
| 26-30 | 10 | 28 | 280 | 7840 |
| 31-35 | 6 | 33 | 132 | 4356 |
| total | 63 |  | 1269 | 28597 |

# mean

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

## Standard Deviation

 = $\frac{28597-\frac{(1269)^{2}}{63}}{63-1}$

 = $\frac{28597-25561.29}{62}$

 = 48.96

 S.D = √48.96

 = 6.99

## Coefficient Of Variation

= $\frac{6.99}{20.14}×100\%$

= 0.347×100%

=34.7

= 35% appx.

3.the group with the less variable distribution therefore is group B with a coefficient of variation value of 35% compared with that of group A which have 345%