

name or name of the person answering
 date: 19/11/2021
 Department: computer Engineering

ANSWER TO STA assignment

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	670.41
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
	$\Sigma f = 29$		$\Sigma fx = 517$			$\Sigma f(x - \bar{x})^2$ = 2374.17

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

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

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

$= 9.21$

iv. 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
	$\Sigma f = 63$		$\Sigma fx = 1269$			$\Sigma f(x - \bar{x})^2 = 3969.98$

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

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

$$= \sqrt{\frac{3969.98}{62}} = 8.00$$

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

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

$$= 39.72$$

C. Group B has less variable its contribution.