PINNICK ITSE ORITSETSERUNDEDE,
CHEMICAL ENGINEERING
19/ENG.01/013
STA 132 Assignment

Group A

Cl	F	x	fx	$x-\bar{x}$	$(x-\bar{x})^2$	$f(x-\bar{x})^2$
1-5	0	3	0	-14.83	219.93	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	0.029	0.058
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
	$\Sigma F = 29$		$\Sigma fx = 517$			$\Sigma f(x-\bar{x})^2 = 2374.17$

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	91.6
21-25	16	23	368	2.86	8.18	130.88
26-30	10	28	280	7.86	61.78	617.8
3-35	4	33	132	12.86	165.38	661.52
	$\Sigma f = 63$		$\Sigma fx = 1269$			$\Sigma f(x-\bar{x})^2 = 3035.74$

i

Mean of Group A $= \frac{\Sigma fx}{\Sigma f}$

$= \frac{517}{29}$

$\therefore$ Mean of Group A $= 17.83$

Mean of Group B $= \frac{\Sigma fx}{\Sigma f}$

$= \frac{1269}{63}$

$\therefore$ mean of Group B $= 20.14$

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

$= \sqrt{\frac{2374.17}{29-1}}$

$\therefore$ Standard Deviation of Group A $= 9.21$

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

$= \sqrt{\frac{3035.74}{1269-1}}$

$\therefore$ Standard Deviation of Group B $= 1.55$

ii Coefficient Variation for Group A = $\frac{S.D}{Mean} \times 100$

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

$\therefore$ Coefficient of Variation for Group A = 51.65%

Coefficient of Variation for Group B = $\frac{S.D}{mean} \times 100$

$= \frac{1.55}{20.14} \times 100$

$\therefore$ Coefficient of Variation for Group B = 7.70%

iii Group B has less Variable distribution.