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19/ENG02/003
Computer Engineering
STA 132

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	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	926.52
	$\Sigma f = 29$		$\Sigma fx = 517$			$\Sigma f(x-\bar{x})^2 = 2374.17$

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

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

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

$= 9.21$

b) Coefficient of variation $\Rightarrow C.V = \frac{S.D}{\bar{x}} \times 100$

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

$= 51.65$

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

Mean ai) Mean $= \frac{\Sigma fx}{\Sigma f}$

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

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

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

$= 8.00$

b) Coefficient of variation $\Rightarrow$ C.V $= \frac{S.D}{\bar{x}} \times 100$

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

$= 39.72$

c) Group B has less variable distribution.