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19/ENG08/1018
Aeronautical Engineering
Sta 132

Solution:

1.) C.I	f_i	x	$f_i x$	$x - \bar{x}_i$	$\lvert x - \bar{x}_i \rvert^2$	$f_x (x - \bar{x})^2$
1-5	0	3	0	14.83	219.93	0
6-10	7	8	56	9.83	16.63	676.41
11-15	10	13	130	4.85	23.33	233.30
16-20	2	18	36	0.17	2.03	0.06
21-25	1	23	23	5.17	26.73	26.73
26-30	5	28	140	10.17	3.43	517.15
31-35	4	33	132	15.17	230.13	920.52
	29		517			2374.17

$$\therefore \text{mean}(x_i) = \frac{\Sigma f_i x}{\Sigma f_i}$$

$$= \frac{517}{29}$$

$$= 17.83$$

$$S.D = \sqrt{\frac{\Sigma f_i (|x - \bar{x}|)^2}{\Sigma f_i}}$$

$$= \sqrt{\frac{2374.17}{29}} = \sqrt{81.87} = 9.05$$

$$C.V. = \frac{S.D.}{\bar{x}} \times 100$$

$$= \frac{9.05}{17.83} \times 100$$

$$= 50.7\%$$