Section - 6

9

01) ~~Draw~~ Explain the test of significance of difference of means, Draw C-chart of the following data pertaining to the number of foreign coloured threads (considered as defect) in 15 pieces of cloth of 2m x2m in certain make of synthetic fiber and state your conclusions.
7, 12, 13, 20, 21, 5, 4, 3, 10, 8, 0, 9, 6, 7, 20

10

11

12

1

Here we have number of cloth pieces = 15

2

(i) The total number of defects (c)
= 7 + 12 + 3 + 20 + 21 + 5 + 4 + 3 + 10 + 8 + 0 + 9
+ 6 + 7 + 20 = 135

3

4

(ii) The average number of defects ($\bar{c}$) is

5

$$\bar{c} = \frac{\text{Total number of defects}}{\text{Total number of samples}} = \frac{\Sigma c}{n} = \frac{135}{15} = 9$$

6

(iii) The 3-σ control limits for c-chart given by

Central limit = $\bar{c} = 9$

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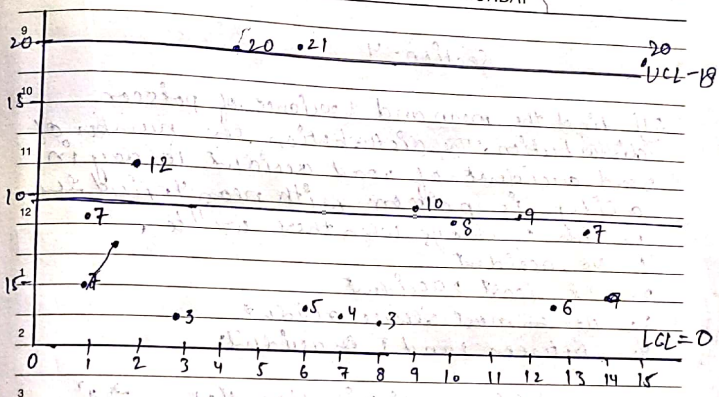
$$UCL = \bar{c} + 3\sqrt{\bar{c}} = (9 + 3\sqrt{9}) = 9 + 9 = 18$$

$$LCL = \bar{c} - 3\sqrt{\bar{c}} = 9 - 3\sqrt{9} = 9 - 9 = 0.$$

Notes | Call



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