

Q1

Ans:- Here, We have numbers of cloth pieces = 15

(i) the total numbers of defects (C)

$$= 7 + 12 + 3 + 20 + 21 + 5 + 4 + 3 + 10 + 8 + 0 + 9 + 6 + 7 + 20$$

$$= 135$$

(ii) The average numbers of defects (\bar{C}):

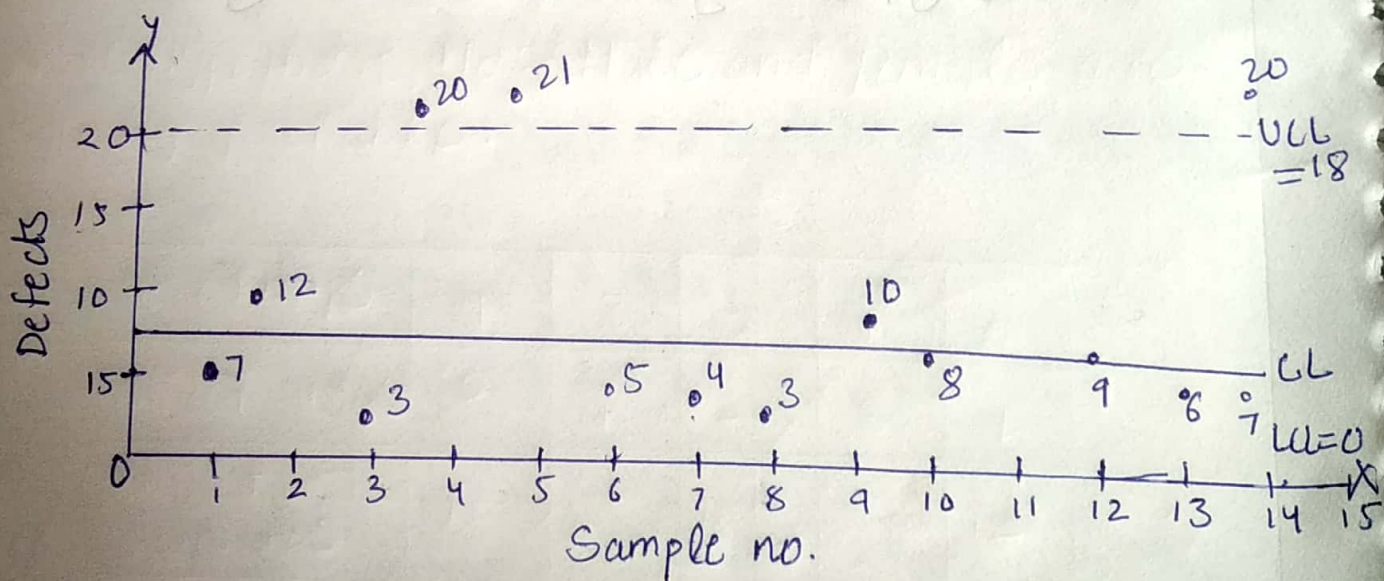
$$\bar{C} = \frac{\text{Total no. of defects}}{\text{Total no. of Samples}}$$

$$= \frac{\sum C}{n} = \frac{135}{15} = 9$$

(iii) The 3- σ Control limits for C-chart are given by Central Limit Line = $\bar{C} = 9$

$$UGL = \bar{C} + 3\sqrt{\bar{C}} = (9 + 3\sqrt{9}) = 9 + 9 = 18$$

$$LCL = \bar{C} - 3\sqrt{\bar{C}} = (9 - 3\sqrt{9}) = 9 - 9 = 0$$



Since three Sample points are outside the limits the process is not under Statistical control.