SECTION-6

Q.1

7, 12, 13, 20, 21, 5, 4, 3, 10, 8, 0, 9, 6, 7, 20.

Here we have number of cloth pieces = 15

i) The total no. of defects (c)

$= 7+12+3+20+21+5+4+3+10+8+0+9+6+7+20 = 135.$

ii) The average no. of defects ($\bar{c}$):

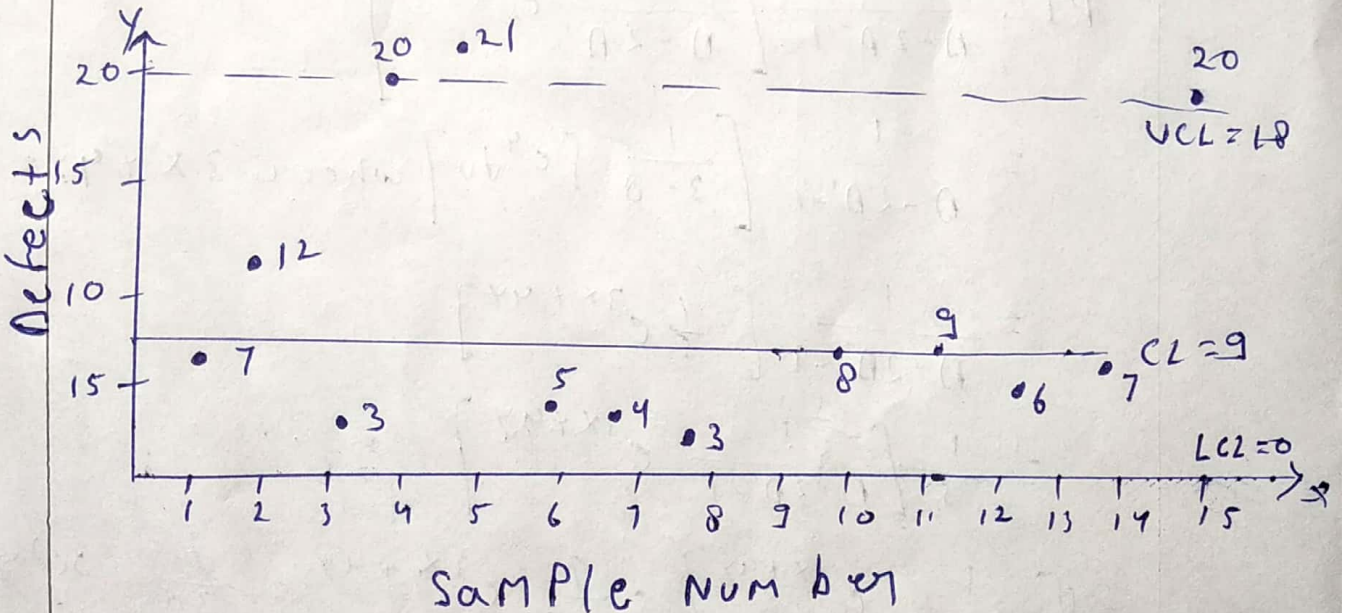
$$\bar{c} = \frac{\text{Total No. of defects}}{\text{Total No. of samples}} = \frac{\Sigma c}{N} = \frac{135}{15} = 9.$$

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

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

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

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



Since three sample points are outside the limits, the process is not under statistical control.