Chapter 8 Discussion Questions

1. Process control charts may be classified under two broad headings, ‘variables’ and ‘attribute’. Compare these two categories and indicate when each one is most appropriate.
2. In the context of quality control explain what is meant by a *number of defectives* (*np*-) chart.
3. Explain the difference between an: (a) *np*-chart, (b) *p*-chart, and (c) *c*-chart.
4. A factory finds that on average 20% of the bolts produced by a machine are defective. Determine the probability that out of 4 bolts chosen randomly:
    a) 1 bolt will be defective;
    b) None of the bolts will be defective;
    c) At most 2 bolts will be defective.
5. Twenty samples of 50 polyurethane foam products are selected. The sample results are shown in the table below. Design an appropriate chart control, plot these values on the chart and interpret the results.

Sample No.	1	2	3	4	5	6	7	8	9	10
No. Defective	2	3	1	4	0	1	2	2	3	2
Sample No.	11	12	13	14	15	16	17	18	19	20
No. Defective	2	2	3	4	5	1	0	0	1	2

6. A control chart for a new kind of plastic is to be initiated. Twenty-five samples of 100 plastic sheets from the assembly line were inspected for flaws during a pilot run. The results are given in the table below. Setup an appropriate control chart and draw conclusions about the process based on this chart.

Sample No.	1	2	3	4	5	6	7	8	
No. of flaws/sheet	2	3	0	2	4	2	8	4	
Sample No.	9	10	11	12	13	14	15	16	17
No. of flaws/sheet	5	8	3	5	2	3	1	2	3
Sample No.	18	19	20	21	22	23	24	25	
No. of flaws/sheet	4	1	0	3	2	4	2	1	