

## Chapter 4: Organisation of Data

**Question 1:** Convert the following cumulative frequency series into a simple frequency series:

- 4 students obtained less than 10 marks
- 20 students obtained less than 20 marks
- 40 students obtained less than 30 marks
- 48 students obtained less than 40 marks
- 50 students obtained less than 50 marks

**Solution: Conversion of Cumulative Frequency Series into a Simple Frequency Series**

| Cumulative Frequency Series |                    | Simple Frequency Series |                    |
|-----------------------------|--------------------|-------------------------|--------------------|
| Marks less than             | Number of students | Marks                   | Number of students |
| 10                          | 4                  | 0-10                    | 4                  |
| 20                          | 20                 | 10-20                   | $20-4 = 16$        |
| 30                          | 40                 | 20-30                   | $40-20 = 20$       |
| 40                          | 48                 | 30-40                   | $48-40 = 8$        |
| 50                          | 50                 | 40-50                   | $50-48 = 2$        |

**Question 2:** In a survey, it was found that 50 families bought milk in the following quantities in a particular month. Classify the following data in an individual, discrete, continuous and cumulative frequency series.

|    |    |    |    |    |
|----|----|----|----|----|
| 19 | 25 | 12 | 21 | 20 |
| 11 | 7  | 9  | 11 | 14 |
| 20 | 15 | 22 | 15 | 17 |
| 10 | 23 | 18 | 11 | 19 |
| 25 | 22 | 5  | 18 | 17 |
| 11 | 6  | 21 | 24 | 26 |
| 8  | 5  | 9  | 20 | 23 |
| 16 | 22 | 22 | 23 | 13 |
| 16 | 11 | 16 | 22 | 17 |
| 23 | 22 | 10 | 7  | 21 |

**Solution:**

**1. Individual series: In the ascending order of the items**

|   |    |    |    |    |
|---|----|----|----|----|
| 5 | 11 | 16 | 20 | 22 |
|   |    |    |    |    |

|    |    |    |    |    |
|----|----|----|----|----|
| 5  | 11 | 16 | 20 | 22 |
| 6  | 11 | 16 | 20 | 23 |
| 7  | 11 | 17 | 21 | 23 |
| 7  | 11 | 17 | 21 | 23 |
| 8  | 12 | 17 | 21 | 23 |
| 9  | 13 | 18 | 22 | 24 |
| 9  | 14 | 18 | 22 | 25 |
| 10 | 15 | 19 | 22 | 25 |
| 10 | 15 | 19 | 22 | 26 |

**2. Discrete Series: In the ascending order of the items**

| Quantity of Milk | Tally Bars | Frequency | Quantity of Milk | Tally Bars | Frequency |
|------------------|------------|-----------|------------------|------------|-----------|
| 5                | II         |           |                  |            |           |
| 6                | I          |           |                  |            |           |
| 7                | II         |           |                  |            |           |
| 8                |            |           |                  |            |           |
| 9                |            |           |                  |            |           |
| 10               |            |           |                  |            |           |
| 11               |            |           |                  |            |           |
| 12               |            |           |                  |            |           |
| 13               |            |           |                  |            |           |
| 14               |            |           |                  |            |           |
| 15               |            |           |                  |            |           |