CHAPTER TEST: STATISTICS

Mathematics | Class IX (2026/STAT/09/NCERT/001)

Time: 1.5 Hours   **Max. Marks: 33**

GENERAL INSTRUCTIONS

– All questions are compulsory.

– Section A: 5 MCQs (1 mark each).

– Section B: 4 Short Answer Questions (2 marks each).

– Section C: 4 Long Answer Questions (4 marks each).

– Section D: 4 Objective/NCERT Highlight Questions (1 mark each).

Section A: Multiple Choice Questions (1 Mark Each)

1. The range of the data: $25, 18, 20, 22, 16, 6, 17, 15, 12, 30, 32, 10, 19, 8, 11, 20$ is:
   (a) 10   (b) 15   (c) 18   (d) 26

2. In a frequency distribution, the mid-value of a class is 10 and the width of the class is 6. The lower limit of the class is:
   (a) 6   (b) 7   (c) 8   (d) 12

3. The mean of five numbers is 30. If one number is excluded, their mean becomes 28. The excluded number is:
   (a) 28   (b) 30   (c) 35   (d) 38

4. For drawing a frequency polygon of a continuous frequency distribution, we plot the points whose ordinates are the frequencies of the respective classes and abscissae are:
   (a) Upper limits   (b) Lower limits   (c) Class marks   (d) Cumulative frequencies

5. The median of the data $7, 8, 9, 11, x, x + 2, 14, 15, 20$ (arranged in ascending order) is 12. The value of x is:
   (a) 12   (b) 13   (c) 11   (d) 10

Section B: Short Answer Questions (2 Marks Each)

6. The blood groups of 30 students of Class IX are recorded as follows:
   A, B, O, O, AB, O, A, O, B, A, O, B, A, O, O, A, AB, O, A, A, O, O, AB, B, A, O, B, A, B, O.
   Represent this data in the form of a frequency distribution table.

7. Find the mean of the first five prime numbers.

8. The following observations have been arranged in ascending order: $29, 32, 48, 50, x, x + 2, 72, 78, 84, 95$. If the median of the data is 63, find the value of x.

9. Give one example of a situation in which:
   (i) The mean is an appropriate measure of central tendency.
   (ii) The mean is not an appropriate measure of central tendency but the median is.

Section C: Long Answer Questions (4 Marks Each)

10. Construct a histogram for the following data:

| Class Interval	10–19	20–29	30–39	40–49	50–59	60–69
Frequency	2	10	15	20	18	4

11. The following table gives the life times of 400 neon lamps:

Life Time (hrs)	300–400	400–500	500–600	600–700	700–800	800–900	900–1000
No. of Lamps	14	56	60	86	74	62	48

   (i) Represent the given information with the help of a histogram.
   (ii) How many lamps have a life time of more than 700 hours?

12. Find the mean, median, and mode of the following data:
    $41, 39, 48, 52, 46, 62, 54, 40, 96, 52, 98, 40, 42, 52, 60$.

13. A frequency polygon is shown below representing the marks obtained by students in a test. Answer the following based on the diagram:
    (i) What is the class size?
    (ii) Find the number of students who scored less than 30 marks.
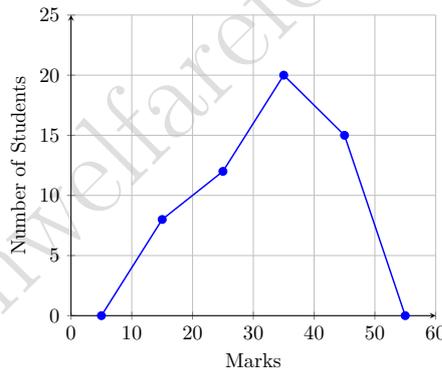
Section D: NCERT Important Highlights (1 Mark Each)

1. The difference between the maximum and minimum values of a variable is called its _____.

2. The sum of the deviations of a set of values $x_1, x_2, ..., x_n$ from their mean is always _____.

3. While drawing a histogram, the _____ of the rectangles are proportional to the frequencies.

4. The _____ is the middle-most observation when data is arranged in order.

SOLUTIONS & PREPARATION GUIDE

To excel in Statistics, prioritize these concepts:

- **Continuous Classes:** If class intervals are discontinuous (e.g., 10-19, 20-29), subtract 0.5 from the lower limit and add 0.5 to the upper limit before drawing a histogram.

- **Histogram Area:** Remember that in a histogram, the area of the bars (not just the height) represents the frequency if class widths are unequal.

- **Median Calculation:** If n is odd, Median $= (\frac{n+1}{2})^{th}$ term. If n is even, Median $=$ Average of $(\frac{n}{2})^{th}$ and $(\frac{n}{2}+1)^{th}$ terms.

- **Frequency Polygon:** Always remember to "close" the polygon by connecting it to the x-axis at the midpoints of hypothetical classes before the first and after the last class.