Mathematics

Practice Test Paper 10

(Chapter 13: Statistics)

Class X | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Round non-terminating answers to two decimal places. Use of calculators is not allowed.

SECTION A

(5 questions × 1 mark = 5 marks)

1. Which expression is the grouped-data median formula?

(A) $\frac{\Sigma fx}{\Sigma f}$ (B) $l + \frac{N/2 - cf}{f} h$

(C) $l + \frac{N - cf}{f} h$ (D) $a + \frac{\Sigma fd}{\Sigma f}$

2. If the estimated mode is 27 and the median is 25, the empirical relation gives a mean of:

(A) 24 (B) 25

(C) 26 (D) 23

3. The class mark of the modal class in the table is:

Class interval	10–20	20–30	30–40	40–50	50–60
Frequency	8	14	22	10	6

(A) 45 (B) 15

(C) 25 (D) 35

4. For this cumulative table, the ordinary frequency of 30–40 is:

Class interval	Cumulative frequency
Less than 20	7
Less than 30	18
Less than 40	32
Less than 50	40

(A) 32 (B) 12

(C) 14 (D) 18

5. If each observation is multiplied by 2, a mean of 17 becomes:

(A) 19 (B) 34

(C) 289 (D) 8.5

SECTION B

(4 questions × 2 marks = 8 marks)

6. The distribution contains 52 observations. Find k and the percentage in the first class.

Class	0–10	10–20	20–30	30–40
Frequency	13	10	k	9

7. Find the missing entries a and b in the frequency table.

Class	Frequency	Cumulative frequency
0–10	7	7
10–20	a	19
20–30	11	b
30–40	6	36

8. A class has midpoint 37.5 and width 15. Find its lower and upper limits, showing the calculation.

9. Find the mean time from the short grouped distribution.

Time (h)	0–2	2–4	4–6	6–8
Frequency	1	4	3	2

SECTION C

(3 questions × 3 marks = 9 marks)

10. The table shows study time per week. Calculate the grouped mean by the direct method.

Time (h)	0–4	4–8	8–12	12–16	16–20
Frequency	2	5	11	8	4

11. The table gives the lifetimes of 400 neon lamps. Estimate the median lifetime.

Lifetime (h)	Frequency
1500–2000	14
2000–2500	56
2500–3000	60
3000–3500	86
3500–4000	74
4000–4500	62
4500–5000	48

12. The mean daily pocket allowance is Rs 18. Find the missing frequency f.

Allowance (Rs)	Frequency
11–13	7
13–15	6
15–17	9
17–19	13
19–21	f
21–23	5
23–25	4

SECTION D

(Application Based Question - 3 marks)

13. A teacher grouped the scores on a practice quiz. Use the grouped data to answer the following.

Marks	0–10	10–20	20–30	30–40
Frequency	2	8	14	6

(i) Find the total number of observations.

(ii) State the modal class.

(iii) Find the grouped mean.