DPP
DAILY PRACTICE PROBLEMS

Class : XIth   **Subject : MATHS**

Date :   **DPP No. : 3**

Topic :- STATISTICS

1. The quartile deviation for the following data is

x	2	3	4	5	6
f	3	4	8	4	1

    a) 0   b) $\frac{1}{4}$ c) $\frac{1}{2}$ d) 1

2. The median of the items 6, 10, 4, 3, 9, 11, 22, 18 is

    a) 9   b) 10   c) 9.5   d) 11

3. If for a moderately skewed distribution, mode $= 60$ and mean $= 66$, then median $=$

    a) 60   b) 64   c) 68   d) None of these

4. If a variable takes values 0, 1,2,..,n with frequencies $q^n, {}^nC_1q^{n-1}p, {}^nC_2q^{n-2}p^2, \ldots {}^nC_np^n$, where $p + q = 1$, then the mean is

    a) np b) nq c) $n(p + q)$ d) None of these

5. Consider the following statements :

1. The AM of first n natural number is $\frac{1}{6}n(2n + 1)$

2. In a moderately symmetric distribution,

$QD \leq MD \leq SD$

Which of these is/are not correct?

    a) Only (1)   b) Only (2)   c) Both (1) and (2)   d) None of these

6. The AM of n observations is M. If the sum of $n - 4$ observations is a, then the mean of remaining 4 observations is

    a) $\frac{nM - a}{4}$ b) $\frac{nM + a}{2}$ c) $\frac{nM - a}{2}$ d) $nM + a$

7. The standard derivation of the observations 22, 26, 28, 20, 24, 30 is

    a) 2   b) 2.4   c) 3   d) 3.42

8. The age distribution of workers in a factory is as fallows :

Age in Years	No. of Workers
20-28	45
36-44	100
44-52	42
52-60	18

If 15% of the total strength starting from lowest age group is retrenched and 20% of the total strength from the highest age groups is given premature retirement, then the age limit of workers retained in the factory is

    a) 20-36   b) 28-44   c) 28-52   d) 36-52

9. In a class of 100 students there are 70 boys whose average marks in a subject are 75. If the average marks of the complete class is 72, then what is the average of the girls?

    a) 73   b) 65   c) 68   d) 74

10. In a college of 300 students every student reads 5 newspapers and every newspaper is read by 60 students. The number of newspapers are

    a) At least 30   b) At most 20   c) Exactly 25   d) None of these

11. If the sum of the mode and men of a certain frequency distribution is 129 and the median of the observations is 63, mode and median are respectively

    a) 69 and 60   b) 65 and 64   c) 68 and 61   d) None of these

12. For a series the value of mean deviation is 15, the most likely value of its quartile derivation is

    a) 12.5   b) 11.6   c) 13   d) 9.7

13. If the mean of n items is $\bar{x}$ and the sum of any $(n-1)$ number is R, then the value of left item is

    a) $n + \bar{x}$ b) $n\bar{x} - R$ c) $\bar{x} + Rn$ d) $n\bar{x} - nR$

14. If the mean deviation of number $1, 1+d, 1+2d, \ldots, 1+100d$ from their mean is 255, then the d is equal to

    a) 10.0   b) 20.0   c) 10.1   d) 20.2

15. The weight (in kilogram) of 15 students are as follows 31, 35, 27, 29, 32, 43, 37, 41, 34, 28, 36, 44, 45, 42, 30. If the weight 44 kg is replaced by 46 kg and 27 kg is by 25 kg, then new median is

    a) 32   b) 33   c) 34   d) 35

16. Consider the frequency distribution given below

Class-Interval	Frequency
0-10	4
10-20	6
20-30	10
30-40	16
40-50	14

The mean of the above distribution is

    a) 25   b) 35   c) 30   d) 31

17. If the variance of $1,2,3,4,5,\ldots,10$ is $\frac{99}{12}$, then the standard derivation of $3,6,9,12,\ldots, 30$ is

    a) $\frac{297}{4}$ b) $\frac{3}{2}\sqrt{33}$ c) $\frac{3}{2}\sqrt{99}$ d) $\sqrt{\frac{99}{12}}$

18. If each observation of a raw data whose variance is σ^2 is multiplied by h, then the variance of the new set is

    a) σ^2 b) $h^2\sigma^2$ c) $h\,\sigma^2$ d) $h + \sigma^2$

19. The mean income of a group of workers is $\bar{X}$ and that of another group is $\bar{\bar{Y}}$. If the number of workers in the second group is 10 times the number of workers in the first group, then the mean income of the combined group is

    a) $\frac{\bar{X} + 10\,\bar{Y}}{3}$ b) $\frac{\bar{X} + 10\,\bar{Y}}{11}$ c) $\frac{10\,\bar{X} + \bar{Y}}{Y}$ d) $\frac{X + 10\,\bar{Y}}{9}$

20. If $\bar{X}$ is the mean of $x_1, x_2, x_3 \ldots x_n$. Then, the algebraic sum of the deviations about mean $\bar{X}$ is

    a) 0   b) $\bar{X}$ c) $n\,\bar{X}$ d) None of these