

**STATISTICS**

**Q.1)** If the median of the following frequency distribution is 46, find the missing frequencies

Variable	10-20	20-30	30-40	40-50	50-60	60-70	70-80	Total
Frequency	12	30	?	65	?	25	18	229

- (A) 33, 55                      (B) 32, 35  
(C) 34, 45                      (D) none of these

**Q.2)** Find the mode of the following data

26, 16, 19, 48, 19, 20, 34, 15, 19, 20, 21, 24, 19, 22, 16, 18, 20, 16, 19

- (A) 48                              (B) 20  
(C) 19                              (D) 24

**Q.3)** Find the value of x, if the mode of the following data is 25 :

15, 20, 25, 18, 14, 15, 25, 15, 18, 16, 20, 25, 20, x, 18

- (A) 20                              (B) 14  
(C) 18                              (D) 25

**Q.4)** The median of the first ten prime numbers is:

- (A) 7                                (B) 12  
(C) 11                              (D) 5

**Q.5)** The sum of the deviations of a set of n values measured from 50 is -10 and that of the values from 46 is 70. Then the mean of the data will be

- (A) 40.5                          (B) 46.5  
(C) 42.5                          (D) 49.5

**Q.6)** The value of  $\sum_{i=1}^n x_i$  is -

- (A)  $\frac{\bar{x}}{2}$                               (B)  $2\bar{x}$   
(C)  $n\bar{x}$                             (D)  $\frac{\bar{x}}{n}$

**Q.7)** The mean of the following data  $1^2, 2^2, 3^2, \dots, n^2$  is -

- (A)  $\frac{(n+1)(2n+1)}{6}$                       (B)  $\frac{n(n-1)(2n+1)}{6}$   
(C)  $\frac{n(n+1)(2n-1)}{6}$                       (D)  $\frac{n(n-1)(2n-1)}{6}$

**Q.8)** To find mean, we use the formula.

- (A)  $\sum_{i=1}^n f_i x_i$                       (B)  $N \sum_{i=1}^n f_i x_i$   
(C)  $\frac{1}{N} \sum_{i=1}^n f_i x_i$                       (D)  $\sum_{i=1}^n \left( \frac{f_i x_i}{N} \right)$

**Q.9)** Which of the following is true?

- (A) Mode = 2median - Mean  
(B) Mode = 3median + 2Mean  
(C) Mode = 3median - 2Mean  
(D) None of these

**Q.10)** In the formula for mode of a grouped data,

$$\text{mode} = \ell + \left\{ \frac{f_1 - f_0}{2f_1 - f_0 - f_2} \right\} \times h, \text{ where symbols}$$

have their usual meaning  $f_0$  represents :

- (A) Frequency of modal class  
(B) Frequency of median class  
(C) Frequency of the class preceding the modal class  
(D) Frequency of class succeeding the modal class

**Q.11)** The median of following series if 520, 20, 340, 190, 35, 800, 1210, 50, 80

- (A) 1210                          (B) 520  
(C) 190                            (D) 35

**Q.12)** If the first five elements of the set  $x_1, x_2, \dots, x_{10}$  are replaced by  $x_i + 5, i = 1, 2, 3, 4, 5$  and next five elements are replaced by  $x_j - 5, j = 6, 7, \dots, 10$  then the mean will change by

- (A) 0                                (B)  $\frac{n+1}{2}$   
(C) 10                              (D) 25

**Q.13)** If the median of the data,  $x_1, x_2, x_3, x_4, x_5, x_6, x_7, x_8$  is  $a$ , then find the median of the data  $x_3, x_4, x_5, x_6$  (where  $x_1 < x_2 < x_3 < x_4 < x_5 < x_6 < x_7 < x_8$ )

- (A)  $a$  (B)  $\frac{a}{2}$   
(C)  $\frac{a}{4}$  (D) cannot say

**Q.14)** If  $a < b < c < d$  and  $a, b, c, d$  are non-zero integers, the mean of  $a, b, c, d$  is 0 and the median of  $a, b, c, d$  is 0, then which of the following is correct?

- (A)  $b = -c$  (B)  $a = -d$   
(C) both (1) and (2) (D) none of these

**Q.15)** A sequence,  $a, ax, ax^2, \dots, ax^n$ , has odd number of terms. Find its median

- (A)  $ax^{n-1}$  (B)  $ax^{\frac{n-1}{2}}$   
(C)  $ax^{\frac{n}{2}}$  (D)  $ax^{\frac{n+1}{2}}$

**Q.16)** If  $x < y < 2x$ ; the median and mean of  $x, y$  and  $2x$  are 27 and 33 respectively, then find the mean of  $x$  and  $y$ .

- (A) 23.5 (B) 24  
(C) 23 (D) 25.5

**Q.17)** If the mean of the numbers 7, 3, 8, 4,  $x, 7, 9, 7$  and 12 is 7, then the difference between the median and the mode of the numbers 12, 10, 8, 10,  $x, 7, 6, 8$  and 6 is :

- (A) 0 (B) 1  
(C) 2 (D) 3

**Q.18)** If the mean of  $x$  and  $x^6$  is 'M', then the mean of  $x^6$  and  $x$  is ?

- (A)  $M^6$

- (B)  $(16M^4 + 16M^2 - 1)$   
(C)  $(2M^2 - 1)(16M^4 - 16M^2 + 1)$   
(D)  $(2M^2 - 1)(16M^4 + 16M^2 - 1)$

**Q.19)** A cricketer has a certain average run for 10 innings. In the 11th inning, he scores 100 runs, and now his average run is increased by 9 runs.

Then average of

- (A) 10 runs (B) 20 runs  
(C) 11 runs (D) 21 runs

**Q.20)** If the mean of three numbers  $a, b$  and  $c$  is 3, then  $\sqrt[3]{(7^{a+b-c})(7^{b+c-a})(7^{c+a-b})}$  equals

- (A)  $7^{1/3}$  (B)  $7^{2/3}$   
(C)  $7^2$  (D)  $7^3$

**Q.21)** THE MEAN OF THE FOLLOWING FREQUENCY IS 114. EVALUATE THE MISSING FREQUENCY (X)

Class interval	Frequency
20—40	9
40—60	11
60—80	14
80—100	6
100—120	8
120—140	$x$
140—160	10
160—180	20
180—200	7

- (A)  $X = 15$  (B)  $X = 20$   
(C)  $X = 17$  (D)  $X = 25$

**Q.22)** Find the mean of the following data

Marks	No. of Students
Below 10	7
Below 20	17
Below 30	40
Marks	No. of Students
Below 40	91
Below 50	97
Below 60	100

- (A) 29.8 MARKS (B) 27.8 MARKS

(C) 26.8 MARKS (D) 28.8 MARKS

**Q.23)** In the following frequency distribution, the frequency of the class interval (40—50) is missing. It is known that the mean of the distribution is 52. Find the missing frequency.

Wages (in Rs.)	Numbers of Workers
10–20	5
20–30	3
30–40	4
40–50	x
50–60	2
60–70	6
70–80	13

- (A) X = 5 (B) X = 6  
(C) X = 7 (D) X = 10

**Q.24)** The mean of the following frequency table is 53. But the frequencies  $f_1$  and  $f_2$  in the classes 20–40 and 60–80 are missing. Find the missing frequencies.

Age (in years)	Number of people
0–20	15
20–40	$f_1$
40–60	21
60–80	$f_2$
80–100	17
Total	100

- (A)  $F_1 = 18$  AND  $F_2 = 20$   
(B)  $F_1 = 18$  AND  $F_2 = 25$   
(C)  $F_1 = 18$  AND  $F_2 = 29$   
(D)  $F_1 = 20$  AND  $F_2 = 29$

**Q.25)** Find the mode from the following distribution

Class	Frequency
100—200	40
200—300	160
300—400	560
400—500	970
500—600	1240
600—700	1370
700—800	1460
800—900	50

- (A) 706 (B) 707  
(C) 710 (D) 760

**Q.26)** Determine the unknown frequency p of the following data if its mode is 54

Class	Frequency
20—30	3
30—40	5
40—50	10
50—60	20
60—70	x
70—80	2

- (A) X = 5 (B) X = 3  
(C) X = 2 (D) X = 1

**Q.27)** Find the median of the following distribution :

Monthly consumption of electricity	Numbers of consumers
65–85	4
85–105	5
105–125	13
125–145	20
145–165	14
165–185	7
185–205	4

- (A) RS. 135 (B) RS. 137  
(C) RS. 130 (D) RS. 120

**Q.28)** Calculate the median of the following distribution :

Marks	No. of students
40—49	5
50—59	10
60—69	20
70—79	30
80—89	20
90—99	15

- (A) 74.5 CM (B) 70.5 CM  
(C) 80.5 CM (D) 71.5 CM

**Q.29)** Find the x and y from the given data if median = 32.5

Class	Frequency
10—20	12
20—30	30
30—40	x
40—50	65
50—60	y
60—70	25
70—80	18

- (A)  $X = 2, Y = 6$                       (B)  $X = 3, Y = 3$   
(C)  $X = 3, Y = 6$                       (D)  $X = 1, Y = 1$

Q.30) If mean deviation is 13 and then find the value of =

- (A) 40    (B) 45  
(C) 50    (D) 35

Answer Sheet

Q.1	C	Q.11	C	Q.21	A
Q.2	C	Q.12	A	Q.22	A
Q.3	D	Q.13	A	Q.23	C
Q.4	B	Q.14	C	Q.24	C
Q.5	D	Q.15	C	Q.25	A
Q.6	C	Q.16	D	Q.26	A
Q.7	A	Q.17	C	Q.27	B
Q.8	C	Q.18	C	Q.28	A
Q.9	C	Q.19	A	Q.29	C
Q.10	C	Q.20	D	Q.30	C