Statistics

QUESTIONS

1.	In a frequency distribution, the mid value of a class is 15 the width of the class is 4. The lower limit							
	of the class is							
	(a) 11	(b) 10						
	(c) 8	(d) 13						
	(e) None of these							
2.	The width of each of 8 continu	The width of each of 8 continuous classes in a frequency distribution is 7 and the higher class-limit						
	of the lowest class 18. The lower limit of the highest class is							
	(a) 58	(b) 60						
	(c) 62	(d) 65						
	(e) None of these							
3.	Which one among the following	g statements is/ are correct?						
	(a) The range of the data 7, 1, 3, 8,	9, 13, 18, 19, 4, 3 is 17.						
	(b) In the class interval 12-17, 17-22, 22-27, the number 22 is not included in 17-22.							
	(c) Class size is the difference between the upper and lower class limits.							
	(d) All the above							
	(e) None of these							
4.	Let $ig(\mathbf{k-1}ig)$ be the mid-point a	Let $ig(k-1ig)$ be the mid-point and 'a' be the lower class limit of a class in a continuous frequency						
	distribution. The upper class-limit of the class is							
	(a) $(k-1)-m$	(b) $(k-1) + m$						
	(c) $2(k-1)-m$	(d) $2(k+1) - m$						
	(e) None of these							
5.	If each observation of the data	is decreased by 10, then their mean						
	(a) remains the same	(b) becomes 10 times the original mean						
	(c) is increased by 10	(d) is decreased by 10						
	(e) None of these							
6.	The class marks of frequency distribution are given as follows: 12, 18, 24,							
	The class corresponding to the class mark 24 is							
	(a) 22-26	(b) 20–28						
	(c) 21-27	(d) 21–28						
	(e) None of these							

7. If \mathbf{x} is the arithmetic mean of n observations $\mathbf{x}_1, \mathbf{x}_2, \mathbf{x}_3, \dots, \mathbf{x}_n$, then _____

(a)
$$\sum_{i=1}^{n} (x_n - \overline{x}) = 0$$

(b) $\sum_{i=1}^{n} (x_n - \overline{x}) = 1$
(c) $\overline{x} = \frac{(x_1 + x_2 + x_3 + \dots + x_n)}{n}$

(d) both (a) and (c) are correct

(e) None of these

The correct mean is

8. The difference of the mean of first five prime numbers to the mean of first 5 multiple of 3 is _____

(a) 9	(b) 5.6
(c) 2.8	(d) 3.4
(e) None of these	

9. The mean of 18 items was found to be 25. On rechecking it was found that two items were wrongly taken as 23 and 20 instead of 26 and 30 respectively.

(a) 25.60	(b) 25.32
(c) 25.72	(d) 25.52
(e) None of these	

10. If 8 be the mean of the observations x - 13, x + 5, x + 9, x + 14, x + 15 then find the mean of the last four observations.

(a) 12	(b) 12.75
(c) 11.75	(d) 13
(e) None of these	

11. If a be the mean of x_1 , x_2 , x_3 , ..., x_n , and \overline{b} be the mean of y_1 , y_2 , y_3 , ..., $If \overline{c}$ is the mean of x_1 , x_2 , x_3 , ..., x_n , y_1 , y_2 , ..., y_n , then \overline{c} is equal to

(a)
$$\frac{\overline{a} - \overline{b}}{2}$$
 (b) $\overline{a} + \overline{b}$
(c) $\frac{\overline{a} + \overline{b}}{2}$ (d) $\frac{\overline{a} + \overline{b}}{n}$

12. If the mean of 29 observation is 35. Out of these observations, If the mean of first 15 observation is 30 and that of last 15 observation 38, the 15th observation is:

- (a) 15 (b) 18
- (c) 8 (d) 5

(e) None of these

13. Two coins are tossed 500 times the outcomes are recorded as below:

No. of tails	0	1	2	
Frequency	120	175	205	

Based on this information, the probability for at least 1 tail is _____

(a) $\frac{1}{25}$	(b) $\frac{17}{25}$
(c) $\frac{18}{25}$	(d) $\frac{19}{25}$

(e) None of these

(e) None of these

15. Find the value of $3f_1 - f_2$ if mean for the following frequency distribution is 1.46.

Variable	0	1	2	3	4	5	Total	
Frequency	46	76	38	f_1	10	f_2	200	
								-
(a) 60								(b) 70
(c) 80								(d) 65

(e) None of these

16. The median of the data when mean and mode are respectively 45 and 36 is

(a) 38		(b) 42
(c) 49		(d) 39
	A . A	

17. The mean of a set of 15 observations is 18 and another set of 21 observation is 19, The mean of the combined set is _____

(a) 16.38	(b) 17.48
(c) 18.58	(d) 19.68
(e) None of these	

18. If mode of the observations 7, 3, 5, 8, 3, 3, 5, 6, 9, 7, x, 8, 8, 5 and 4 is 5 the median of the observations is _____

(a) 3.5	(b) 5
(c) 5.5	(d) 6
(e) None of these	

19. Consider the following data: $4\frac{3}{5}$, $4\frac{5}{7}$, $4\frac{3}{6}$, $4\frac{1}{3}$, $4\frac{1}{3}$ and $4\frac{1}{3}$

Based on the above data, which one among the following is correct?

(a) Mean = 4.49
(b) Median = 4.45
(c) Median = 4.5
(d) Both (a) and (b)
(e) None of these

(c) 3.5 (d) 4.5

(e) None of these

21. For the observations 21, 5, 8, 15, 52, 68, 45, x, 48, y, 18, 9. Which of the following will not change? (Where x lies between 20 and 30 and y lies between 30 and 40)

Quartile deviation. Mean, Median, Range

- (a) Quartile deviation(b) Mean(c) Median(d) Range
- (e) None of these

(d) 17:0	(0) 17 : 10
(c) 8 : 33	(d) 18 : 33
(e) None of these	

Class Interval	15-19	20-24	25-29	30-34	35-39	
Frequency	16	8	10	12	4	
(a) 11.04	(b) 13.08					
(c) 10.02		(d) 12.98				
(e) None of these						

23. The mean deviation for the following data about median is _____.

24. If a < b < 2a and median and of a, b and 2a are p respectively, then the mean of a and b is _____

(a) 3q+2p(b) $\frac{3q+2p}{6}$ (c) $\frac{3q+2p}{3}$ (d) $\frac{3p+2q}{6}$

(e) None of these

25. The probability that a non-leap year has exactly 53 Tuesdays is _____

(a) $\frac{2}{7}$	(b	$) \frac{1}{7}$
(c) $\frac{3}{7}$	(d	$) \frac{1}{6}$

(e) None of these

26. The following observations are arranged in ascending order: 36, 39, 45, 48, x, x + 4, 57, 62, 65, 68 If the median is 54, then the mean of the observations is

(a) 52.8	(b) 50.6
(c) 51.8	(d) 531.8

(e) None of these

27. In a medical examination of students of a class, the following blood groups are recorded:

Blood group	А	В	0	AB
No. of students	35	28	19	13

A student is selected at random from the class. The probability that he/ she has blood group other than 'O' is _____



Age (in years)	Number of persons surviving out of a sample of one million
60	17384
61	12560
62	9008
63	5980
64	4050
65	2730

Distance (28 to 30): Consider the mortality table given below:

28. Based on above information answer the following questions:

The probability that a person 'aged 61' will die within a year is _____

(a)	9008 12560	(b) -	222 785
(c)	<u>9008</u> 17384	(d) -	3552 9008

(e) None of these

29. The probability that a person 'aged 62' will live for 3 years is _____

(a)	$\frac{1365}{4504}$	(b)	$\frac{6278}{2730}$
(c)	$\frac{2730}{6278}$	(d)	$\frac{1}{4}$

(e) None of these

In the given table, probability for an event is $P = \frac{14656}{17384}$, then P should be the probability that a 30.

person

(a)	'aged 60'	will die within two years.	(ხ	5)	'aged 65	5' v	vill die	within	a year.	

- (c) 'aged 62' will die within 3 years.
- (d) 'aged 60' will die within 5 years.

(e) None of these

Directions (31 to 33): Ages of employers in an organization is distributed as follows:

Age (in years)	20-29	30-39	40-49	50-59	60 & above
No. of workers	42	28	14	8	4

31. If a person is chosen at random, the probability that the person is under 50 years.

(a) $\frac{1}{8}$	(b) $\frac{3}{5}$
(c) $\frac{7}{8}$	(d) $\frac{4}{7}$

32. Find the probability that the person is under 40 but over 19 years.

(a) $\frac{5}{8}$	(b) $\frac{35}{48}$
(c) $\frac{35}{96}$	(d) $\frac{48}{92}$

(e) None of these

33. Find the probability that the person is more than 29 years.

(a) $\frac{8}{9}$	(b) $\frac{9}{14}$
(c) $\frac{1}{16}$	(d) $\frac{9}{16}$

(e) None of these

34. Following are the marks obtained (Out of 50) by the students in a class.

Marks	No. of Students
10-20	8
20-30	X
30-40	9
40-50	6

One student from the class is selected at random. If the, probability that his marks is 20 or more but

18
26

(e) None of these

35. In a game of shooting if a person hits a target 7 times and missed it by 28 times then probability that he missed the target is _____

(a)
$$\frac{1}{5}$$
 (b) $\frac{4}{5}$
(c) $\frac{1}{4}$ (d) $\frac{2}{5}$

36. A bag contains x white balls, 15 red balls and y black balls. A ball is drawn at random from the bag. If the probability that the drawn ball is white, is $\frac{4}{15}$ and the probability that the drawn ball is red, is

$\frac{1}{2}$, then the values of x and y are respectively			
(a) 18, 12	(b) 12, 18		
(c) 14, 16	(d) 16, 14		
(e) None of these			

37. The mean marks (out of 100) of boys and girls in an examination are 64 and 80 respectively. If the mean marks of all the students in that examination is 73, then the ratio of the number of girls to the number of boys is _____

(a) 8 : 9	(b) 9 : 7
(c) 4 : 1	(d) 3 : 5

(e) None of these

38. The mean of the following distribution is 44.35

x	F
10	18
25	a-3
40	27
55	a-6
70	34

The value of a is _____

(a) 12	(b) 9
(c) 15	(d) 18
(e) None of these	

39. The frequency distribution of the marks obtained by 56 students in a test carrying 50 marks is given below:

Marks	0-10	10-20	20-30	30-40	40-50
No. of students	7	14	13	12	10

Find the mode of the data.

(a) 18.25	(b) 19.65
(c) 18.75	(d) 20.25

40. One card is selected from a well shuffled deck of cards. The probability that it is a red jack is _____

- (a) $\frac{2}{13}$ (b) $\frac{1}{52}$ (c) $\frac{1}{26}$ (d) $\frac{1}{13}$
- (e) None of these

ANSWER - KEY				
1. (D)	2. (B)	3. (D)	4. (C)	5. (D)
6. (C)	7. (D)	8. (D)	9. (C)	10. (B)
11. (C)	12. (D)	13. (D)	14. (C)	15. (B)
16. (B)	17. (C)	18. (C)	19. (D)	20. (C)
21. (D)	22. (A)	23. (B)	24. (B)	25. (B)
26. (A)	27. (D)	28. (B)	29. (A)	30. (D)
31. (C)	32. (B)	33. (D)	34. (D)	35. (B)
36. (B)	37. (B)	38. (C)	39. (C)	40. (C)