

NATIONAL MANAGEMENT COLLEGE – THUDUPATHI

CA FOUNDATION

PAPER – 3: BUSINESS MATHEMATICS, LOGICAL REASONING AND STATISTICS

Time Allowed : 2 hour

Maximum Marks : 100

1. The difference between upper limit of a class is called:

- (a) Class interval (b) Class boundaries (c) Mid-value (d) Frequency

2. Find median from the following data:

Marks : 0-10 10-30 30-60 60-80 80-90

No.of students:

- (a) 8 (b) 30 (c) 40 (d) 45

3. Find the mode from the following data:

Class : 3-6 6-9 9-12 12-15 15-18 18-21

Frequency : 2 5 10 23 21 12 3

- (a) 23 (b) 13.3 (c) 12.6 (d) 14.6

4. The marks obtained by 10 students in an examination were as follows: 60,65,68,70,75,73,80,70,83,86. Find mean deviation about the mean

- (a) 5.3 (b) 5.4 (c) 5.5 (d) 5.6

5. The arithmetic mean of two numbers is 30 and geometric mean is 24 find the two number

- (a) 12 and 48 (b) 14 and 46 (c) 10 and 50 (d) 16 and 44

6. Sum of the squares of deviations is minimum when deviations are taken from

- (a) Mean (b) Median (c) Mode (d) An arbitrary value

7. Find the mean deviation about mean of 4,5,6,8,3

- (a) 5.20 (b) 7.20 (c) 1.44 (d) 2.33

8. The mean and coefficient of variance is 20 and 80 find the value of variance

- (a) 16 (b) 256 (c) 36 (d) 2.33

9. Find SD of 1,2,3,4,5,6,7,8,9

- (a)

10. The standard deviation for the set of numbers 1,4,5,7,8, is 2.45 nearly. If 0 is added to each number then new standard deviations is

- (a) 24,45 (b) 12.45 (c) 2. 45 (d)0.245

11. For a given distribution the arithmetic mean is 15 and the standard deviation is 9 then the coefficient of variation is equal to

- (a)

12. The mean of a distribution is 14 and the standard deviation is 5. What is the value of the coefficient of variation?

- (a) 60.4% (b) 70% (c) 35.7% (d) 27.8%

13. Which measure of dispersion is most useful?

- (a) Standard deviation (b) Quartile deviation (c) Mean deviation (d)Range

14. The range of 15,12,10,9,17,20 is

- (a) 5 (b) 12 (c) 13 (d) 11

15. The coefficient of mean deviation about mean for the first 9 natural numbers is

- (a) $200/9$ (b) 80 (c) $400/9$ (d) 50

16. If X and Y are related by $y = 2X+5$ and the SD and AM of X are known to be 5 and 10 respectively, then the coefficient of variation is

- (a) 25 (b) 30 (c) 40 (d) 20

17. G.M is defined only when

- (a) All observations have the same sign and none is zero
(b) All observations have the different sign and none is zero
(c) All observations have the same sign and one is zero
(d) All observations have the different sign and one is zero

18. The middle most value of a set of observations is

- (a) Median (b) Mode (c) Mean (d) None

19. 10th percentile is equal to

- (a) 1st decile (b) 10th decile (c) 9th decile (d) None

20. Coefficient of variation is

- (a) absolute measure (b) relative measure (c) both (d) None

21. If mean=5, Standard deviation=2.6 then the coefficient of variation is

(a) 49 (b) 51 (c) 50 (d) 52

22. If the variance of given data is 12, and their mean value is 40, what is coefficient of variation (CV)?

(a) 5.66% (b) 6.66% (c) 7.50% (d) 8.65%

23. Height incms : 60-62 63-65 66-68 69-71 72-74

No. of students: 15 118 142 127 18

Model group is

(a) 66-68 (b) 69-71 (c) 63-65 (d) none

24. If $Y = 5x - 20$ and $x = 30$ then the value of y is

(a) 130 (b) 140 (c) 30 (d) none

25. $(Q_3 - Q_1) / (Q_3 + Q_1)$ is

(a) coefficient of Quartile Deviation (b) coefficient of Mean Deviation
(c) coefficient of standard of deviation (d) none

26. If the sum of square of the value equals to 3390, Number of observation are 30 and standard deviation is 7, what is the mean value of the above observation?

(a) 14 (b) 11 (c) 8 (d) 5

27. Data are said to be _____ if the investigator himself is responsible for the collection of the data.

(a) Primary data (b) Secondary Data (c) Mixed of primary and secondary data
(d) None of the above

28. Class : 0-10 10-20 20-30 30-40 40-50

Frequency : 4 6 20 8 3

For the class 20-30, cumulative frequency is

(a) 26 (b) 10 (c) 41 (d) 30

29. If the mean of the following distribution is 6 then the value of P is

X: 2 4 6 10 P + 5
F: 3 2 3 1 2

(a) 7 (b) 5 (c) 12 (d) 24

31. If the range of a set of values is 65 and maximum value in the set is 83, then the minimum value in the set is

(a) 74 (b) 9 (c) 18 (d) None of the above

32. The Algebraic sum of the deviation of a set of values from their arithmetic mean is

- (a) >0 (b) $=0$ (c) ≤ 0 (d) None of the above

33. If total frequencies of three series are 50,60 and 90 and their means are 12,15 and 20 respectively, then the mean of their composite series is

- (a) 15.5 (b) 16 (c) 14.5 (d) 16.5

34. The number of times a particular items occurs in a class interval is called its

- (a) Mean (b) Cumulative frequency (c) frequency (d) None of the above

35. For a moderately skewed distribution, which of the following relationship holds?

- (a) Mean – Mode= 3 (Mean-Median) (b) Median - Mode=3 (Mean-Median)
(c) Mean – Median= 3 (Mean – Mode) (d) Mean- Median= 3 (Median-Mode)

36. If there are two groups containing 30 and 20 observations and having 50 and 60 as arithmetic means, then the combined arithmetic mean is

- (a) 55 (b) 56 (c) 54 (d) 52

37. The average salary of a group of unskilled workers is '10,000 and that of a group of skilled workers is ' 15,000. If the combined salary is ' 12,000, then what is the percentage of unskilled workers?

- (a) 40% (b) 50% (c) 60% (d) none of these

38. The positive square root of the mean of the squared deviations of some observations from their arithmetic mean is called

- (a) 0 (b) 1 (c) 2 (d) 5

40. Measures of central tendency are known as

- (a) differences (b) averages (c) both (d) none