

FY BBA Business Statistics - Unit 2.

Measures of Central Tendency

Multiple Choice Questions

1. Any measure indicating the centre of a set of data, arranged in an increasing or decreasing order of magnitude, is called a measure of:

- (a) Skewness
- (b) Symmetry
- (c) Central tendency
- (d) Dispersion

2. Scores that differ greatly from the measures of central tendency are called:

- (a) Raw scores
- (b) The best scores
- (c) Extreme scores
- (d) Z-scores

3. The measure of central tendency listed below is:

- (a) The raw score
- (b) The mean
- (c) The range
- (d) Standard deviation

4. The total of all the observations divided by the number of observations is called:

- (a) Arithmetic mean
- (b) Geometric mean
- (c) Median
- (d) Harmonic mean

5. While computing the arithmetic mean of a frequency distribution, the each value of a class is considered equal to:

- (a) Class mark
- (b) Lower limit
- (c) Upper limit
- (d) Lower class boundary

6. Change of origin and scale is used for calculation of the:

- (a) Arithmetic mean
- (b) Geometric mean
- (c) Weighted mean
- (d) Lower and upper quartiles

7. The sample mean is a:

- (a) Parameter
- (b) Statistic
- (c) Variable
- (d) Constant

8. The population mean μ is called:

- (a) Discrete variable
- (b) Continuous variable
- (c) Parameter
- (d) Sampling unit

9. The arithmetic mean is highly affected by:

- (a) Moderate values
- (b) Extremely small values
- (c) Odd values
- (d) Extremely large values

10. If a constant value is added to every observation of data, then arithmetic mean is obtained by:

- (a) Subtracting the constant
- (b) Adding the constant
- (c) Multiplying the constant
- (d) Dividing the constant

11. Which of the following statements is always true?

- (a) The mean has an effect on extreme scores
- (b) The median has an effect on extreme scores
- (c) Extreme scores have an effect on the mean
- (d) Extreme scores have an effect on the median

12. The elimination of extreme scores at the bottom of the set has the effect of:

- (a) Lowering the mean
- (b) Raising the mean
- (c) No effect
- (d) None of the above

13. The elimination of extreme scores at the top of the set has the effect of:

- (a) Lowering the mean
- (b) Raising the mean
- (c) No effect
- (d) Difficult to tell

14. The sum of deviations taken from mean is:

- (a) Always equal to zero
- (b) Some times equal to zero
- (c) Never equal to zero
- (d) Less than zero

15. Step deviation method or coding method is used for computation of the:

- (a) Arithmetic mean
- (b) Geometric mean
- (c) Weighted mean
- (d) Harmonic mean

16. If the arithmetic mean of 20 values is 10, then sum of these 20 values is:

- (a) 10
- (b) 20
- (c) 200
- (d) 30

17. Ten families have an average of 2 boys. How many boys do they have together?

- (a) 2
- (b) 10
- (c) 12
- (d) 20

18. If the arithmetic mean of the two numbers X_1 and X_2 is 5 if $X_1 = 3$, then X_2 is:

- (a) 3
- (b) 5
- (c) 7
- (d) 10

19. Given $X_1 = 20$ and $X_2 = -20$. The arithmetic mean will be:

- (a) Zero
- (b) Infinity
- (c) Impossible
- (d) Difficult to tell

20. The mean of 10 observations is 10. All the observations are increased by 10%. The mean of increased observations will be:

- (a) 10
- (b) 1.1
- (c) 10.1
- (d) 11

21. The frequency distribution of the hourly wage rate of 60 employees of a paper mill is as follows:

Wage Rate (Rs.)	54 - 56	56 - 58	58 - 60	60 - 62	62 - 64
Number of Workers	10	10	20	10	10

The mean wage rate is:

- (a) Rs. 58.60
- (b) Rs. 59
- (c) Rs 57.60
- (d) Rs 57.10

22. The sum of deviations is zero when deviations are taken from:

- (a) Mean
- (b) Median
- (c) Mode
- (d) Geometric mean

23. When the values in a series are not of equal importance, we calculate the:

- (a) Arithmetic mean
- (b) Geometric mean
- (c) Weighted mean
- (d) Mode

24. When all the values in a series occur the equal number of times, then it is not possible to calculate the:

- (a) Arithmetic mean
- (b) Geometric mean
- (c) Harmonic mean
- (d) Weighted mean

25. The mean for a set of data obtained by assigning each data value a weight that reflects its relative importance within the set, is called:

- (a) Geometric mean
- (b) Harmonic mean
- (c) Weighted mean
- (d) Combined mean

26. The arithmetic mean of 10 items is 4 and the arithmetic mean of 5 items is 10. The combined arithmetic mean is:

- (a) 4
- (b) 5
- (c) 6
- (d) 90

27. The midpoint of the values after they have been ordered from the smallest to the largest or the largest to the smallest is called:

- (a) Mean
- (b) Median
- (c) Lower quartile
- (d) Upper quartile

28. The first step in calculating the median of a discrete variable is to determine the:

- (a) Cumulative frequencies
- (b) Relative weights
- (c) Relative frequencies
- (d) Sort

29. The suitable average for qualitative data is:

- (a) Mean
- (b) Median
- (c) Mode
- (d) Geometric mean

30. Extreme scores will have the following effect on the median of an examination:

- (a) They may have no effect on it
- (b) They may tend to raise it
- (c) They may tend to lower it
- (d) None of the above

31. We must arrange the data before calculating:

- (a) Mean
- (b) Median
- (c) Mode
- (d) Geometric mean

32. If the smallest observation in a data is decreased, the entity which is not affected is:

- (a) Mode
- (b) Median
- (c) Mean
- (d) Harmonic mean

33. If the data contains an extreme value, the suitable average is:

- (a) Mean
- (b) Median
- (c) Weighted mean
- (d) Geometric mean

34. Sum of absolute deviations of the values is least when deviations are taken from:

- (a) Mean
- (b) Mode
- (c) Median
- (d) Q_3

35. The frequency distribution of the hourly wages rate of 100 employees of a paper mill is as follows:

Wage Rate (Rs.)	54 - 56	56 - 58	58 - 60	60 - 62	62 - 64
Number of Workers	20	20	20	20	20

The median wage rate is:

- (a) Rs.55
- (b) Rs.57
- (c) Rs.56
- (d) Rs.59

36. The values of the variate that divide a set of data into four equal parts after arranging the observations in ascending order of magnitude are called:

- (a) Quartiles
- (b) Deciles
- (c) Percentiles
- (d) Difficult to tell

37. The lower and upper quartiles of a symmetrical distribution are 40 and 60 respectively. The value of median is:

- (a) 40
- (b) 50
- (c) 60
- (d) $(60 - 40) / 2$

38. If in a discrete series 75% values are less than 30, then:

- (a) $Q_3 < 75$
- (b) $Q_3 < 30$
- (c) $Q_3 = 30$
- (d) $Q_3 > 30$

39. If in a discrete series 75% values are greater than 50, then:

- (a) $Q_1 = 50$
- (b) $Q_1 < 50$
- (c) $Q_1 > 50$
- (d) $Q_1 = 50$

40. If in a discrete series 25% values are greater than 75, then:

- (a) $Q_1 > 75$
- (b) $Q_1 = 75$
- (c) $Q_3 = 75$
- (d) $Q_3 > 75$

41. If in a discrete series 40% values are less than 40, then :

- (a) D_4 Not equal to 40
- (b) D_4 Less than 40
- (c) D_4 Greater than 40
- (d) D_4 Equal to 40

42. If in a discrete series 15% values are greater than 40, then:

- (a) $P_{15} = 70$
- (b) $P_{85} = 15$
- (c) $P_{85} = 70$
- (d) $P_{70} = 70$

43. The middle value of an ordered series is called:

- (a) Median
- (b) 5th decile
- (c) 50th percentile
- (d) All the above

44. If in a discrete series 50% values are less than 50, then:

- (a) $Q_2 = 50$
- (b) $D_5 = 50$
- (c) $P_{750} = 50$
- (d) All of the above

45. The mode or model value of the distribution is that value of the variate for which frequency is:

- (a) Minimum
- (b) Maximum
- (c) Odd number
- (d) Even number

46. Suitable average for averaging the shoe sizes for children is:

- (a) Mean
- (b) Mode
- (c) Median
- (d) Geometric mean

47. Extreme scores on an examination have the following effect on the mode:

- (a) They tend to raise it
- (b) they tend to lower it
- (c) They have no effect on it
- (d) difficult to tell

48. A measurement that corresponds to largest frequency in a set of data is called:

- (a) Mean
- (b) Median
- (c) Mode
- (d) Percentile

49. Which of the following average cannot be calculated for the observations 2, 2, 4, 4, 6, 6, 8, 8, 10, 10?

- (a) Mean
- (b) Median
- (c) Mode
- (d) All of the above

50. Mode of the series 0, 0, 0, 2, 2, 3, 3, 8, 10 is:

- (a) 0
- (b) 2
- (c) 3
- (d) No mode

51. A distribution with two modes is called:

- (a) Unimodal
- (b) Bimodal
- (c) Multimodal
- (d) Normal

52. The model letter of the word STATISTICS is:

- (a) S
- (b) T
- (c) Both S and I
- (d) Both S and T

53. The mode for the following frequency distribution is:

Weekly sales of pens	0	1	2	3	Over 3
Number of weeks	38	6	5	1	0

- (a) 0
- (b) 2
- (c) 3
- (d) No mode

Answer Key

1. **C**
2. **C**
3. **B**
4. **A**
5. **B**

6. **A**
7. **B**
8. **C**
9. **D**
10. **B**

11. **C**
12. **B**
13. **A**
14. **A**
15. **A**

16. **C**
17. **D**
18. **C**
19. **A**
20. **D**

21. **B**
22. **A**
23. **C**
24. **D**
25. **C**

- 26. **C**
- 27. **B**
- 28. **D**
- 29. **B**
- 30. **A**

- 31. **B**
- 32. **B**
- 33. **B**
- 34. **C**
- 35. **D**

- 36. **A**
- 37. **B**
- 38. **C**
- 39. **A**
- 40. **C**

- 41. **D**
- 42. **C**
- 43. **D**
- 44. **D**
- 45. **B**

- 46. **B**
- 47. **C**
- 48. **C**
- 49. **C**
- 50. **A**

- 51. **B**
- 52. **D**
- 53. **C**