## **Frequently Asked Questions**

1. What is a moment in statistics?

**Answer:** The word Moment in statistics is used to describe the characteristics of a frequency distribution like central tendency, variation, skeweness and kurtosis.

2. Why do we use measure of moment in statistics?

**Answer:** The measure moment in statistics is used to indicate the peculiarities of a frequency distribution, indicate the different aspects of a given distribution and measure the central tendency of a series, dispersion or variability, skew and peak of the curve.

3. How do we denote the moments from actual mean, arbitrary mean and about zero? **Answer:** We denote the moments from actual mean as  $\mu$  (mu), arbitrary mean as  $\mu$ ' (mu dash) and about zero as v.

4. What happens when moment is extended to higher powers? **Answer:** Moment of high order, though is important are sensitive to sampling fluctuations, that values calculated for moderate number of observations are quite unreliable and hardly ever give the results.

5. How are data distributed?

Answer: Data are distributed as symmetrical and asymmetrical distribution.

6. What is symmetrical distribution?

**Answer:** A symmetrical distribution is one in which the mean will be exactly equal to the deviation above the mean, therefore the positive deviation and negative deviation will exactly balance out.

7. What is asymmetrical distribution?

**Answer:** An asymmetrical distribution is one in which the mean will not be exactly equal to the deviation above the mean, therefore the positive deviation and negative deviation will not balance out.

8. What is Sheppard's correction for grouping error?

**Answer:** While calculating moments it is assumed that all the values of a variable in a class interval are concentrated at the centre of that interval (that is the mid-point), however in reality the assumption is an approximation for facilitating calculation and it introduces some error which is known as grouping error. The Sheppard's correction is used to eliminate the grouping error.

9. What are the conditions for applying Sheppard's correction?

**Answer:** The Sheppard's correction factor to eliminate the grouping error is best suitable only when the data is continuous data having frequency above thousand and when the original measurements are reasonably precise.

## 10. What is the purpose of moments?

**Answer:** Moments help in measuring the central tendency of a set of observations, their symmetrical, their variability and the height of the peak of the curve.

11. What are the various measures of moments and what does it indicate? **Answer:** First moment about the origin – Mean, Second moment about the mean –variance, Third moment about the mean –Skewness and fourth moment about the mean - Kurtosis 12. How does moment help in analysing frequency distribution?

**Answer:** The moments helps is obtaining measures of the various characteristics of a frequency distribution, the calculation of the first four moment about the mean is considered in analyzing the frequency distribution.

13. What are the two constants of Karl Pearson to measure the skewness and kurtosis from moments?

**Answer:** The two constants of Karl Pearson to measure skewness and kurtosis are beta one and beta two.

14. What is Beta one?

**Answer:** Beta one is calculated as the square of mu three divided by the cube of mu two and Beta one measures the skewness.

15. What is Beta two?

**Answer:** Beta two is calculated as mu four divided by mu two square and beta two measures the kurtosis.