Q. What do you mean by dispersion?

Dispersion: From the measures of central tendency, we can get knowledge only about the central values. They do not ~~no~~ provide us the highest or lowest value, the range or how spreated the observations. For these kinds of information about any series we have to use the measures of dispersion.

or, Dispersion: The distance of different values from central value is called dispersion.

Q. What do you mean by measures of dispersion? why it is important?

Measures of dispersion: A measure of dispersion discribes the degree of scatter shown by observations and is usually measured as an average deviation about some central value.

It is important, because it should be easy to calculate and easy to understand, it should be based on all observations and it should be affected as ~~little~~ little as possible by fluctuations of sampling.

Q. What are the qualities of good measures of dispersion? Which measures is suitable and why?

characteristics of a good measure of dispersion are given below;

1. It should be rigidly defined
2. It should be beasy to calculate and easy to understand.
3. It should be based on all the observations
4. It should be sampling stability
5. it should be affected as little as possible by fluctuations of sampling.

Standard deviation is considered to be the best measure of dispersion and is therefore, the most widely used measure of dispersion.

1. It is based on all values and thus, provides information about the complete series. ~~because~~ Because of this reason, a change in even one value affects the value of standard deviation.
2. it is independent of origin and depends on scale
3. it is useful in advance statistical calculations like comparison of variability in two series of data,
4. it can be used in testing hypothesis.
5. It is capable of further algebraic treatment.

Q. Distinguish between absolute measures of dispersion and relative measures of dispersion.

Soln: There is some difference between absolute and relative measures of dispersion is given below

Points of difference	Absolute measures of dispersion	Relative measures of dispersion
1. Deffinition	when dispersion measured in original units then it is known a absolute measure of dispersion.	A measure of relative dispersion is the ratio of a measure of absolue dispersion to an appropriate average.
2. Ratio and percentage	Absolule measure of dispersion are not expressed interms of ratio percentage etc.	Generally, relative measures of dispersion are expressed interms of ratio, percentage etc.
3. Measures	The four important absolue measures of dispersion are as follows: (i) Range (ii) Mean deviation (iii) standared deviation (iv) quartile deviation	The relative measures of dispersion are as follows: (i) coefficient of range (ii) coefficient of mean deviation (iii) coefficient of variation (iv) coefficient of quartile deviation
4. source	It is calculated from the raw data.	it is calculated from the absolule measure of dispersion