STATISTICAL FORMULAE
1) **Mean (M)**

\[
M = \frac{\sum fx}{N}
\]

Where \( fx \) = Product of the frequency with the value of the items

\( N \) = Total number of items

2) **Standard Deviation (SD)**

\[
SD = \sqrt{\frac{\sum f x^2}{N} - M^2}
\]

Where \( fx^2 \) = Product of the frequency with the square of the value of the item

\( N \) = Total number of items

\( M^2 \) = (Mean)^2

3) **Co-efficient of Dispersion (CD)**

\[
CD = \frac{SD}{M}
\]

Where \( SD \) = Standard Deviation

\( M \) = Mean

4) **Co-efficient of Variation (CV)**

\[
CD = \frac{SD}{M} \times 100
\]

Where \( SD \) = Standard Deviation

\( M \) = Mean

5) **Chi-square test \( (X^2\)-test)**

\[
\frac{(f_o - f_e)^2}{f_e}
\]

Where \( d_f = (\text{Rows} - 1) \times (\text{Columns} - 1) \)

\( f_e = \frac{\text{Row total} \times \text{Column total}}{N} \)

\( N \) = summing row or column total

\( f_o \) = observed frequency