

$$P(x) = \binom{n}{x} p^x q^{n-x} = \frac{n!}{(n-x)!x!} p^x q^{n-x}$$

**Introduction to Binomial Data and Hypothesis Testing**

**One Proportion Analysis**

**Two Proportions Analysis**

**K Proportions Analysis**

## Stats Methods for Binomial Data



### Course Objective

The objective of this course is to provide participants the ability to recognize when it is appropriate to use statistical methods that are specific to binomial data, design comparative experiments for binomial data, analyze proportional data from a process to determine if the process meets or exceeds a quality goal, compare proportional data from 2 or more processes to determine if one process has a different defect rate or yield, use JMP/SOS statistical software to analyze binomial data.

### Targeted Group

Engineering, Quality & Reliability, Statistician, Integration, Materials.

### Pre-requisites

Vital and Applied Stats 101, DOE 1 (Comparative Experiments). Good understanding in basic Statistics (role of Statistics, data type, basic terms and concepts for statistical analysis, common graphical and numerical analyses, meaning and role of X and Y variables), hypotheses testing ( $\alpha$ -risk,  $\beta$ -risk) and some exposure in area of application. The understanding/exposure allows the learners to follow the class well and be able to apply the knowledge learned on the job immediately after the class. Participants are required to install JMP Software (SAS JMP Pro 16.2 or later) prior the class.

### Delivery Mode

PowerPoint presentation, hands-on activities, and Q&A.

### Training Aid

Laptop and Zoom (or equivalent) presentation mode for online session. Projector for face-to-face session.

## Course Duration

2-day, 8 hours/day.

## Course Schedule

1. Introduction to Binomial Data and Hypothesis Testing
2. One Proportion Analysis
3. Two Proportion Analysis
4. K Proportions Analysis

## About Elite Indigo

Elite Indigo Consulting provides corporate training to the semiconductor and manufacturing industries. With a humble beginning of one founding member with passion and desire to share his 20 years of experiences in Smart Manufacturing for global manufacturing facilities, now, we have a strong and competent team of 20 members, all aligned with company mission, vision and core values.

## Our Mission

*"Transform Data into Insights - Leap Forward"*

## Our Vision

*Be a Global Trusted Advisor in the Areas of Skills Development,  
Consultancy & Software Solutions specialising in  
Semiconductor & Manufacturing industries.*

## Our Core Values

