NPTEL Video Course - Biotechnology - NOC:Introduction to Biostatistics

Subject Co-ordinator - Prof. Shamik Sen

Co-ordinating Institute - IIT - Bombay

Sub-Titles - Available / Unavailable | MP3 Audio Lectures - Available / Unavailable

Lecture 1 - Introduction to the course
Lecture 2 - Data representation and plotting
Lecture 3 - Arithmetic mean
Lecture 4 - Geometric mean
Lecture 5 - Measure of Variability, Standard deviation
Lecture 6 - SME, Z-Score, Box plot
Lecture 7 - Moments, Skewness
Lecture 8 - Kurtosis, R programming
Lecture 9 - R programming
Lecture 10 - Correlation
Lecture 11 - Correlation and Regression - Part-I
Lecture 12 - Correlation and Regression - Part-II
Lecture 13 - Interpolation and extrapolation
Lecture 14 - Nonlinear data fitting
Lecture 15 - Concept of Probability
Lecture 16 - Counting principle, Permutations, and Combinations
Lecture 17 - Conditional probability
Lecture 18 - Conditional probability and Random variables
Lecture 19 - Random variables, Probability mass function, and Probability density function
Lecture 20 - Expectation, Variance and Covariance - Part-I
Lecture 21 - Expectation, Variance and Covariance - Part-II
Lecture 22 - Binomial random variables and Moment generating function
Lecture 23 - Probability distribution
Lecture 24 - Uniform distribution Part-II and Normal distribution Part-I
Lecture 25 - Normal distribution Part-II and Exponential distribution
Lecture 26 - Sampling distributions and Central limit theorem - Part-I
Lecture 27 - Sampling distributions and Central limit theorem - Part-II
Lecture 28 - Central limit theorem - Part-III and Sampling distributions of sample mean
Lecture 29 - Central limit theorem - Part-IV and Confidence intervals

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Lecture 30 - Confidence intervals Part- II
Lecture 31 - Test of Hypothesis - 1
Lecture 32 - Test of Hypothesis - 2 (1 tailed and 2 tailed Test of Hypothesis, p-value)
Lecture 33 - Test of Hypothesis - 3 (1 tailed and 2 tailed Test of Hypothesis, p-value)
Lecture 34 - Test of Hypothesis - 4 (Type -1 and Type -2 error)
Lecture 35 - T-test
Lecture 36 - 1 tailed and 2 tailed T-distribution, Chi-square test
Lecture 37 - ANOVA - 1
Lecture 38 - ANOVA - 2
Lecture 39 - ANOVA - 3
Lecture 40 - ANOVA for linear regression, Block Design
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