SHANTILAL SHAH ENGINEERING COLLEGE, BHAVNAGAR

Bachelor of Engineering Subject Code: 3130006
Semester – III
Subject Name: Probability and Statistics
MID SEMISTER EXAM SYLLABUS

1. Basic Probability

Experiment, definition of probability, conditional probability, independent events, Bayes' rule, Bernoulli trials, Random variables, discrete random variable, probability mass function, continuous random variable, probability density function, cumulative distribution function, properties of cumulative distribution function, Two dimensional random variables and their distribution functions, Marginal probability function, Independent random variables.

2. Some special Probability Distributions

Binomial distribution, Poisson distribution, Poisson approximation to the binomial distribution, Normal, Exponential and Gamma densities, Evaluation of statistical parameters for these distributions

3. Basic Statistics

Measure of central tendency: Moments, Expectation, dispersion, skewness, kurtosis, expected value of two dimensional random variable, Linear Correlation, correlation coefficient, rank correlation coefficient, Regression, Bounds on probability, Chebyshev's Inequality

4. Curve fitting by the numerical method

Curve fitting by of method of least squares, fitting of straight lines, second degree parabola and more general curves