

Final copy

**B.E Mathematics syllabus for affiliated engineering colleges of
Osmania University
(w.e.f: academic year 2019-2020)
For Branches: CSE, IT, EEE & EIE**

BS 207MT	Mathematics-III: Probability and Statistics	2L:IT:OP	3 credits
----------	--	----------	-----------

Course objectives :

- To provide the knowledge of probability distributions , tests of significance, correlation and regression.

Course Outcomes :

At the end of the course students will be able to

- apply various probability distributions to solve practical problems, to estimate unknown parameters of populations and apply the tests of hypotheses
- perform a regression analysis and to compute and interpret the coefficient of correlation

Unit-I : Introduction of Probability, Conditional probability, Theorem of Total probability, Baye's Theorem and its applications, Random variables, Types of random variables, Probability mass function and Probability density function, Mathematical expectations.

Unit-II: Discrete probability distributions: Binomial and Poisson distributions, Mean, variance, moment generating function and evaluation of statistical parameters for these distributions, Moments, skewness and Kurtosis.

Unit-III: Continuous probability distributions, Uniform, Exponentian and Normal distributions, Mean, variance, moment generating function and evaluation of statistical parameters for these distributions

Unit-IV: Curve fitting by the method of least squares : fitting of straight lines, second degree parabolas and more general curves, Correlation, regression and Rank correlation. Test of significance: Large sample test for single proportion, difference of proportions, single mean, difference of means, and difference of standard deviations.

Unit-V : Test for single mean, difference of means and correlation coefficients, test for ratio of variances , Chi-square test for goodness of fit and independence of attributes.

