

Unit No.	Syllabus Contents	Mapped CO
I	Measures of Central Tendency and Probability: Measures of Central Tendency: Mean, Median, Mode. Probability: Probability Axioms, Addition Law and Multiplication Law Of Probability, Conditional Probability , Baye's Theorem (Without Proof).	CO1, CO2, CO4
II	Random Variables and Probability Distributions: Random Variables (Discrete and Continuous), Probability Density Function. Probability Distribution: Binomial, Poisson and Normal Distributions, Their Properties (Without Proof), Mathematical Expectation and Variance.	CO1, CO2, CO4
III	Correlation and Regression: Correlation, Correlation Coefficient, Rank Correlation, Regression, Lines Of Regression, Regression Coefficients, Principle Of Least Squares and Curve Fitting(Straight Line, Parabola and Exponential Curves).	CO1, CO2, CO4
IV	Testing of Hypothesis and Large Sample Tests: Formulation of Null Hypothesis, The Critical Region, Two Types of Errors, Level of Significance. Large Sample Tests: Test for Single Proportion, Difference of Proportions, Test for Single Mean and Difference of Means. Confidence Interval for Parameters in One Sample and Two Sample Problems.	CO1, CO3, CO5
V	Small Sample Tests: Student t-distribution (Test for Single Mean, Two Means and All Paired t-test), Testing of Equality of Variances (F-Test), χ^2 – test for goodness fit, χ^2 – test for Independence of Attributes.	CO1, CO3, CO5

Learning Resources

Text Books

1. Fundamentals of Mathematical Statistics , S.C.Gupta and V.K.Kapoor , 11th Edition, Sultan Chand & Sons Publications, 2012.
2. Probability and Statistics for Engineers, Miller and Friends, 7th Edition, Pearson, 2008.

References

1. A First Course in Probability, S.Ross, Pearson Education India, 2002.
2. Probability and Statistics,Dr.T.K.V.Iyengar, Dr.B.Krishna Gandhi, S.Ranganatham, Dr.M.V.S.S.N. Prasad, S.Chand Publications, 4th Revised Edition, 2012.

e-Resources and other Digital Material

1. <https://nptel.ac.in/courses/111/106/111106150/>
2. <http://nptel.ac.in/courses/111105035>
3. https://onlinecourses.nptel.ac.in/noc22_mg31/preview