

Course: Probability and Statistics

Course Code: noc17-ma02

Session: 2016-17

Duration: 12 Weeks

Assessment procedures: Weekly Assignment (25%) + proctored certification Exam (75%)

Curriculum of the Course:

Week 1: Sets, Classes, Collections | Sequence of Sets | Ring, Field (Algebra) | Sigma-Ring, Sigma-Field, Monotone Class | Random Experiment, Events | Definitions of Probability.

Week 2: Conditional Probability | Independence of Events | Problems in Probability | Random Variables | Probability Distribution of a Random Variable.

Week 3: Probability Distribution of a Random Variable-II.

Week 4: Poisson Process | Special Continuous Distributions.

Week 5: Normal Distribution | Problems on Normal Distribution | Function of a Random Variable.

Week 6: Joint Distributions | Independence, Product Moments | Linearity Property of Correlation and Examples | Bivariate Normal Distribution.

Week 7: Additive Properties of Distributions | Transformation of Random Variables | Distribution of Order Statistics | Basic Concepts | Chi-Square Distribution.

Week 8: Distribution | F-Distribution | Descriptive Statistics | Chi-Square Distribution.

Week 9: Introduction to Estimation | Unbiased and Consistent Estimators | LSE, MME | Examples on MME, MLE.

Week 10: UMVUE, Sufficiency, Completeness | Rao-Blackwell Theorem and its Applications | Confidence Intervals.

Week 11: Basic Definitions | Two Types of Errors | Neyman-Pearson Fundamental Lemma | Applications of N-P Lemma.

Week 12: Testing for Normal Mean | Testing for Normal Variance | Large Sample Test for Variance and Two Sample Problem | Paired t-Test

List of students enrolled

S. No	Name of Students
1	Vandana Chotiya