1.	Title of the course	Sampling Theory and Design of Experiments
2.	Course number	MA602L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To MA6107/7
6.	To be offered by	Department of Mathematics and Statistics
7.	To take effect from	July 2022
8.	Prerequisite	Nil
9.	**Course Objective(s):** To introduce different sampling and resampling schemes which are used to obtain data for statistical analysis from real population and to study the design of experiments to create data for statistical analysis from supervised experiments. Also to study properties of these sampling schemes and designs.	
10.	**Course Content:** Simple Random Sampling With Replacement (SRSWR), Simple Random Sampling Without Replacement (SRSWOR), Stratified Sampling, Systematic Sampling, Ratio-Regression Estimates, Two Stage and Three Stage Sampling, Probability Proportional to Size Sampling, Double Sampling, Re-sampling Techniques, Jackknife and Bootstrap Re-sampling. Completely Randomized Design (CRD), Randomized Complete Block Design (RCBD or RBD), Latin Square Design (LSD), Factorial Designs, Fractional Factorial Design, Confounding.	
11.	**Textbook(s):** 1. Montgomery D C, *Design and Analysis of Experiment*, Wiley (2013). 2. Cochran W G, *Sampling Techniques*, Wiley (1977).	
12.	**Reference(s):** 1. Shao J, and Tu D, *The Jackknife and Bootstrap*, Springer (1995).	