



# INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI

भारतीय प्रौद्योगिकी संस्थान तिरुपति

Yerpedu-Venkatagiri Road, Yerpedu Post, Tirupati District, Andhra Pradesh - 517 619

1.	Title of the course	Sampling Theory
2.	Course number	MA519L
3.	Structure of credits (L-T-P-C)	2-0-0-2
4.	New course/modification to	New
5.	To be offered by	Mathematics and Statistics
6.	Prerequisite	CoT
7.	<b>Course Objective(s):</b> To discuss different sampling and resampling schemes that are used to obtain data for statistical analysis from a population. To describe different properties of these sampling schemes.	
8.	<b>Course Content:</b> Simple random sampling with replacement (SRSWR), Simple random sampling without replacement (SRSWOR), Stratified sampling, Systematic sampling, Ratio and regression estimates, Two-stage and three-stage sampling, Double sampling, Probability proportional to size sampling, Resampling techniques, Jackknife and Bootstrap resampling.	
9.	<b>Textbook(s):</b> 1. Cochran W G, Sampling Techniques, 3rd Edition, John Wiley & Sons (1977). 2. Sampath S, Sampling Theory and Methods, 2nd Edition, Alpha Science Int'l Ltd. (2005).	
10.	<b>Reference(s):</b> 1. Shao J and Tu D, The Jackknife and Bootstrap, Springer (1995). 2. Mukhopadhyay P, Theory and Methods of Survey Sampling, 2nd Edition, PHI Learning Pvt. Ltd. (2009).	