

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Non-parametric Statistics
2.	Course Number	MA6028
3.	Status of the Course	Elective
4.	Structure of Credits	3-0-0-3
5.	Offered To	PG
6.	New Course/Modification to	New
7.	To be Offered by	Department of Mathematics
8.	To take effect from	July 2019
9.	Prerequisite	CoT
10.	Whether approved by the Department	Yes
11.	Course Objective: To introduce useful nonparametric methods of estimating the unknown cumulative distribution function, density function, quantiles, and order statistics. To learn nonparametric regression and nonparametric tests. To study different smoothing techniques.	
12.	Course Content: Order Statistics, Quantiles, Empirical Distribution Function, Jackknife and bootstrap tests of Randomness, Tests of Goodness of fit, One sample, and paired sample procedure, Two and k samples procedures, Linear rank Statistics, Smoothing, Nonparametric regression, Density estimation, Introduction of M estimation.	
13.	Text book(s): 1. J. D. Gibbons, S. Chakraborti, <i>Nonparametric Statistical Inference</i> , Springer, (2003). 2. L. A. Wasserman, <i>All of Nonparametric Statistics</i> , Springer, (2006).	
14.	Reference(s): 1. M. Hollander, D. A. Wolfe and E. Chicken, <i>Nonparametric Statistical Methods</i> , John Wiley & Sons, (2013). 2. J. Kloeke, J. W. McKean, <i>Nonparametric Statistical Methods Using R</i> , CRC Press, (2015).	