

INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
PROFORMA FOR NEW COURSE

1.	Title of the Course	Topology
2.	Course Number	MA6021
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 the notion of closeness without using the concept of distance function and to study the continuous functions in this setup. Further, to classify the topological spaces into various class of spaces and to learn the topological properties implying metric spaces.	
12.	Course Content: Topological Spaces, Basis for a topology, Subspace topology, Closed sets and Limit points, Nets and convergence, Continuous Functions and homeomorphisms, Product Topology, Quotient Topology. Connected spaces, Components and Local Connectedness, Path connectedness, Compact spaces, Local compactness, Compactifications. The Countability and Separation axioms, The Urysohn Lemma, The Urysohn Metrization Theorem, The Tietze Extension Theorem, Tychonoff Theorem.	
13.	Text book(s): 1. J. R. Munkres, <i>Topology</i> , PHI Learning, (2000). 2. K. D. Joshi, <i>Introduction to General Topology</i> , New Age International Publishers, (2000).	
14.	Reference(s): 1. J. Dugundji, <i>Topology</i> , Allyn and Bacon Inc, (1966). 2. J. L. Kelley, <i>General Topology</i> , Van Nostrand, (1955). 3. G. F. Simmons, <i>Introduction to Topology and Modern Analysis</i> , Tata McGraw-Hill Education Pvt. Ltd., (2016). 4. S. Willard, <i>General Topology</i> , Addison Wesley, (1970).	