भारतीय प्रौद्योगिकी संस्थान तिरुपति
INDIAN INSTITUTE OF TECHNOLOGY TIRUPATI
भारतीय प्रौद्योगिकी संस्थान तिरुपति

1.	Title of the course	Topology
2.	Course number	MA614L
3.	Structure of credits	3-0-0-3
4.	Offered to	PG
5.	New course/modification to	Modification To MA6021/7
6.	To be offered by	Department of Mathematics and Statistics
7.	To take effect from	July 2022
8.	Prerequisite	CoT
9.	**Course Objective(s):** 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	
10.	**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	
11.	**Textbook(s):** 1. Munkres J R, *Topology*, PHI Learning (2000). 2. Joshi K D, *Introduction to General Topology*, New Age International Publishers (2000).	
12.	**Reference(s):** 1. Dugundji J, *Topology*, Allyn and Bacon Inc (1966). 2. Kelley J L, *General Topology*, Van Nostrand (1955). 3. Simmons G F, Introduction to Topology and Modern Analysis, Tata McGrawHill Education Pvt.Ltd. (2016). 4. Willard S, *General Topology*, Addison Wesley (1970).	