Semester I

Subject Name: Topology	**Duration: 6 hrs /Cycle**
Subject Code: 1PGM3(2015 on)	**Credit : 4**

Unit I: Topological Spaces: Definition and Examples of Topological space - Basis for a topology – The order topology – The product topology of two topological spaces – The subspace topology - Closed sets and limit points.

Unit II: Continuity and Product Topology: Continuous Functions - Equivalent formulations of Continuity – Homeomorphisms - Constructions of continuous functions - The product topology – The Metric Topology - The quotient topology.

Unit III: Connectedness: Connected spaces – Connected subspaces of Real Line - Components and local connectedness - Compact spaces.

Unit IV: Compactness: Compact subspaces of the Real Line – Limit Point Compactness - Local compactness – The Tychonoff Theorem.

Unit V: Separation axioms: The Countability axioms – The Separation axioms - Normal spaces - The Uryshon lemma.

Text Book: Topology by J. R. Munkres, 2nd Edition 2014, PHI Learning Private Limited. Sections: 12 to 33 and 37.

Reference Books: 1. An Introduction to Topology by B.Mendelson, 3rd edition, CBS Publishers.

2. Introduction to Topology and Modern Analysis by G.F.Simmons, 12th Reprint 2010, Tata McGraw - Hill Publications.