Subject Code : P8MA10

CC X - TOPOLOGY

UNIT I

TOPOLOGICAL SPACES: Topological spaces - Basis for a topology - The order topology - The product topology on X x Y - The subspace topology - Closed sets and limit points.

UNIT II

CONTINUOUS FUNCTIONS : Continuous functions - the product topology - The metric topology.

UNIT III

CONNECTEDNESS: Connected spaces- connected subspaces of the Real line - Components and local connectedness.

UNIT IV

COMPACTNESS: Compact spaces - compact subspaces of the Real line - Limit Point Compactness – Local Compactness.

UNIT V : COUNTABILITY AND SEPARATION AXIOMS

The Countability Axioms - The separation Axioms - Normal spaces - The Urysohn Lemma - The Urysohn metrization Theorem - The Tietz extension theorem.

TEXT BOOK(S)

James R. Munkres, Topology (2nd Edition) Pearson Education Pvt. Ltd., New Delhi-2002 (Third Indian Reprint)

UNIT – I - Chapter 2 : Sections 12 to 17
UNIT – II - Chapter 2 : Sections 18 to 21 (Omit Section 22)
UNIT – III - Chapter 3 : Sections 23 to 25.
UNIT – IV - Chapter 3 : Sections 26 to 29.
UNIT – V - Chapter 4 : Sections 30 to 35.

REFERENCE(S)

1. J. Dugundji, Topology, Prentice Hall of India, ,New Delhi, 1975.
2. George F.Sinmons, Introduction to Topology and Modern Analysis, McGraw Hill Book Co., 1963
3. J.L. Kelly, General Topology, Van Nostrand, Reinhold Co., New York
4. L.Steen and J.Seeback, Counter examples in Topology, Holt, Rinehart and Winston, New York, 1970.