SYLLABUS

TOPOLOGY

UNIT – I

Topological Spaces, bases for a topology, the order topology, the product topology on $X \times Y$, the subspace topology, closed sets and limit points, continuous functions, the product topology, the metric topology, the quotient topology.

Connected spaces, connected subspaces of the real line, components and local connectedness.

UNIT – II

Compact spaces, compact space of the real line, limit point compactness, local compactness, nets.

The countability axioms, the separation axioms, Normal spaces, the Urysohn Lemma, the Urysohn Metrization Theorem, the Tietze Extension Theorem, the Tychonoff Theorem.