

Lecture Plan		
Name of the college: Government College of Arts , Science & Commerce, Sanquelim, Goa.		
Name of Faculty: Prajyot Maruti Patil	Subject: Topology	
Paper code: MAT-504	Program: M.Sc.	Division:
Academic year: 2024-25	Semester: I	Total Lectures: 60
Course Objectives:		
1. To prepare students to handle courses involving topology and geometry including complex analysis, functional analysis and several variable calculus		
Expected Course Outcome:		
1) Display familiarity and knowledge of Topological Spaces, Metric Spaces, Homeomorphisms and associated concepts.		
2) Demonstrate proofs to establish truths related to Topological Spaces, Metric Spaces, Homeomorphisms and associated concepts.		
3) Choose the appropriate procedures and modify then if needed to solve method-based problems in Topology.		
4) Analyse and solve unseen problems in Topology and invent mathematically precise arguments to justify their solutions.		
Student Learning Outcome:		
1. Display familiarity and knowledge of Topological Spaces also analyse and solve unseen problems in Topology.		

Month	Lecture From	Lecture To	No. of lectures allotted	Topic, Subtopic to be covered	Exercise/ Assignment	ICT Tools	Reference books
December	Week 1 04/12/24	07/12/24	04	Topological Spaces, Basis		Smart Board	James Munkres, Topology and Introduction,
December	Week 2 09/12/24	14/12/24	04	Sub-basis, Order topology		Smart Board PDF	James Munkres, Topology and Introduction,
December	Week 3 16/12/24	21/12/24	04 Liberation Day	Product topology on $X \times Y$			James Munkres, Topology and Introduction,
January	Week 4 02/01/25	04/01/25	04	Subspace topology		Data projector	James Munkres, Topology and Introduction,
January	Week 5 06/01/25	11/01/25	04	Closed sets and limit points			James Munkres, Topology and Introduction,
January	Week 6 13/01/25	18/01/25	04	Continuous functions			James Munkres, Topology and Introduction,

January	Week 7 20/01/25	25/01/25	04	the product topology		Smart Board	James Munkres, Topology and Introduction,
January-February	Week 8 27/01/25	01/02/25	04	Metric topology, The Quotient Topology			James Munkres, Topology and Introduction,
February	Week 9 03/02/25	08/02/25	04	Connected Spaces, Connected Subspaces of \mathbb{R}		Smart Board PDF	James Munkres, Topology and Introduction,
February	Week 10 10/02/25	15/02/25	04	Components and Local Connectedness			James Munkres, Topology and Introduction,
February	Week 11 17/02/25	22/02/25	04	Compact Topological Spaces		Smart Board	James Munkres, Topology and Introduction,
February-March	Week 12 24/02/25	01/03/25	04	Compact Subspaces of \mathbb{R}			James Munkres, Topology and Introduction,
March	Week 13		04	Limit Point Compactness		Smart Board	James Munkres, Topology and

	03/03/25	08/03/25					Introduction,
March	Week 14 10/03/25	15/03/25	04 Holi	Local Compactness		Smart Board	James Munkres, Topology and Introduction,
March	Week 15 17/03/25	22/03/25	04	Countability Axioms,			James Munkres, Topology and Introduction,
March	Week 16 24/03/25	29/03/25	04	Separation Axioms, Hausdorff Spaces			James Munkres, Topology and Introduction,
March-April	Week 17 31/03/25	05/04/25	04 Gudi Padvā, Id	Regular Spaces, Normal Spaces.		Smart Board	James Munkres, Topology and Introduction,

*** Assessment Rubrics**

Component	Max Marks
ISA 1	20
ISA 2	20
ISA 3	20
Practical	Nil
Project	Nil
Semester End Exam	40