

Semester	AUG 2022
Open to semester	7,11,13
Course code	<b>MT4144</b>
Course title	<b>Representation theory of finite groups</b>
Credits	4 /
Course Coordinator & participating faculty (if any)	Anupam Kumar Singh
Nature of Course	Lectures and Tutorials
Pre-requisites	Linear Algebra, Group Theory
Objectives (goals, type of students for whom useful, outcome etc)	This course introduces the representation theory of finite groups via character theory. The subject of representation theory is quite deep and needed in advanced mathematics (such as number theory, Lie theory, Harmonic Analysis etc) courses as well as Physics and Chemistry.
Course contents (details of topics /sections with no. of lectures for each)	Basic definitions and properties of representations, character theory and decomposition of regular representations, Maschke's Theorem, examples of irreducible representations and character tables, group rings, induced representations and Mackey theory. Burnside's pq Theorem.
Evaluation /assessment	End-Sem Examination-40% Mid-Sem Examination-20% Others-Test I + II = 20 % + 20 %
Suggested readings (with full list of authors, publisher, year, edn etc.)	1. Linear Representations of Finite Groups: Serre J. P. 2. Representation Theory of Finite Groups: Benjamin Steinberg 3. Representations and Characters of Groups : James and Liebeck