Programme Specific Outcome of M.Phil., Mathematics

Students will able to

- Read mathematics independently and solve advanced mathematical problems.

- Demonstrate mastery of subject material, as evidenced by quality of performance in coursework, and on written and oral examinations in mathematics.

- Communicate mathematical ideas, results, context, and background effectively and professionally in written and oral form.

- Produce and defend an original contribution to knowledge, as evidenced by the writing and defence of a thesis involving significant original research.

Course Outcomes of M.Phil Mathematics

Course Outcome of Functional Analysis
Students will able to

- Recognize the concept of topological vector spaces, seminorm,
- Characterise the locally convex spaces, metrizable space, normable space.
- Prove Baire category theorem, Banach-Steinhaus theorem, Open mapping theorem, Closed graph theorem, Hahn Banach Extension and Separation theorem, Banach Alaoglu theorem and Krein Milman theorem .
- Define Compact operators and state some properties of compact operators.
- Discuss the spectrum of compact operators.

Course Outcome of Research Methodology & Algebra
Students will able to

- Classify the types of Research, objectives of the Research.
- Write report and present report.
- Define Modules, Free Modules, Project Modules, Flat Modules.
- Discuss localization, Ideals, Local Rings.
- Define Notherian Modules, Primary Decomposition, Artinian Modules, Length of a Module.

Course Outcome of Analysis
Students will able to

- Define measurable space, measure space.
- Derive some properties of measures.
- Prove Fatou's lemma, Lebesgue's Monotone Convergence theorem, Lebesgue Donimated convergence theorem
- Show the existence of completion of measure space.
- Describe L^p space, $C_c(X)$, $C_0(X)$.
- Characterize the positive linear functional on $C_c(X)$.
- Construct non measurable subset of R.
- Show that L^p space is complete and the completion of $C_c(X)$ is $C_0(X)$ when X is locally compact space.
- Prove Lebesgue-Radon-Nikodym theorem, Riesz Representation theorem, Fubini theorem.