Department of Mathematics

Scheme of Studies M. Phil. Mathematics Program 2021

DURATION OF THE PROGRAM AND SEMESTER–WISE COURSE BREAKDOWN

- 4-6 semesters for regular

- 6-8 semesters for employee

M. Phil. Mathematics Two Year Program
- Year 1 (Two Semester) Course Work

- Year 2 (Two Semester) Research Work

Course Code		Credit Hours
Semester-I		
MTH-	Core	3
MTH-	Core	3
MTH-	Core	3
MTH-	Core	3
Total		**12**
Semester-II		
MTH-	Optional	3
MTH-	Optional	3
MTH-	Optional	3
MTH-	Optional	3
Total		**12**

Semester-III & IV		
MTH-793	Special Problem	1(0-1)
MTH- 794	Seminar - I	1(0-1)
MTH-799	Thesis	6(0-6)

Total	8
Total Credit Hours	**32**

Core courses for M. Phil. program; the students will have to take four core courses as and when offered by the department.

- Overall minimum 24 teaching credit hours for M. Phil. program are mandatory. However, the research supervisor of students may recommend additional courses.

- The department will offer the courses keeping in view the availability of teachers and nature of research to be conducted from the following list.

List of Courses

Course Code	Title of the Course	Credit Hours
MTH- 521	Advanced Functional Analysis	3(3-0)
MTH-522	Convex Analysis	3(3-0)
MTH-523	Inequalities Involving Convex Functions	3(3-0)
MTH-524	Integral Equations	3(3-0)
MTH-525	Variational Inequalities and its Applications	3(3-0)
MTH-526	Operator Theory	3(3-0)
MTH-531	Commutative Algebra	3(3-0)
MTH- 532	Representation Theory of Symmetric Groups	3(3-0)
MTH- 533	Lie Algebra	3(3-0)
MTH- 534	Advanced Graph Theory	3(3-0)
MTH-535	Advanced Group Theory and its Applications	3(3-0)
MTH-536	Theory of Semi Groups	3(3-0)
MTH-537	Computational Algebra	3(3-0)
MTH-538	Homological Algebra	3(3-0)
MTH-539	Field Extensions & Galois Theory	3(3-0)
MTH-541	Advanced Partial Differential Equations	3(3-0)

MTH- 542	Numerical Solutions of Ordinary Differential Equations	3(3-0)
MTH-543	Numerical Solutions of Partial Differential Equations	3(3-0)
MTH-544	Perturbation Methods	3(3-0)
MTH-545	Theory of Interpolation Spaces	3(3-0)
MTH-551	Fixed Point Theory	3(3-0)
MTH-552	Geometric Function Theory	3(3-0)
MTH-553	Advanced Number Theory	3(3-0)
MTH-554	Fuzzy Algebra	3(3-0)
MTH-561	Advanced Numerical Analysis	3(3-0)
MTH-562	Approximation Theory	3(3-0)
MTH-563	Theory of Majorization	3(3-0)
MTH- 564	Linear Groups & Group Representations	3(3-0)
MTH- 581	Theoretical Physics (Plasma Physics)	3(3-0)
MTH-582	Advanced Fluid Dynamics	3(3-0)
MTH-583	Acoustics	3(3-0)
MTH-584	Heat Transfer	3(3-0)
MTH-585	Viscous Fluid Flow	3(3-0)
MTH-586	Integral Transforms	3(3-0)