

Department of Mathematical Sciences


Course Structure and Syllabus of Ph.D. Course-work in Mathematical Sciences

Core Course

| Course Code | Course Name | L-T-P | CH | Credit |
|-------------|---|-------|----|--------|
| MS 750 | Research Methodology in Mathematical Sciences | 2-0-2 | 6 | 4 |
| RP799 | Research and Publication Ethics | 1-0-1 | 2 | 2 |

Elective Courses

| Course Code | Course Name | L-T-P | CH | CR |
|-------------|---|-------|----|----|
| MS 753 | Magnetohydrodynamics | 2-2-0 | 4 | 4 |
| MS 754 | Programming & Numerical Methods | 2-0-2 | 6 | 4 |
| MS 755 | Ramanujan's Theta Functions and Applications to Number Theory | 2-2-0 | 4 | 4 |
| MS 756 | Topological Structures | 2-2-0 | 4 | 4 |
| MS 757 | Fuzzy Sets & Fuzzy Logic | 2-2-0 | 4 | 4 |
| MS 758 | Algebraic Methods in Operator Theory | 2-2-0 | 4 | 4 |
| MS 759 | Probability Measure, Random Variable and Probability Distribution | 2-2-0 | 4 | 4 |
| MS 760 | Operators on Spaces of Analytic Functions | 2-2-0 | 4 | 4 |
| MS 761 | Theory of Distributions and Sobolev Spaces | 2-2-0 | 4 | 4 |
| MS 762 | Finite Element Methods (FED) for PDEs | 2-2-0 | 4 | 4 |
| MS 764 | Advanced Matrix Theory | 2-2-0 | 4 | 4 |
| MS 765 | Non-Negative matrix Theory | 2-2-0 | 4 | 4 |
| MS 766 | Number Fields and Elliptic Curves | 2-2-0 | 4 | 4 |
| MS 767 | Theory of Rings and Modules | 2-2-0 | 4 | 4 |
| MS 768 | Theory of Groups | 2-2-0 | 4 | 4 |
| MS 769 | Character Theory of Finite Groups | 2-2-0 | 4 | 4 |
| MS 770 | Error Control Codes I | 2-2-0 | 4 | 4 |
| MS 771 | Error Control Codes II | 2-2-0 | 4 | 4 |
| MS 772 | Advanced Fluid Dynamics | 3-1-0 | 4 | 4 |
| MS 773 | Computational Fluid Dynamics | 3-1-0 | 4 | 4 |
| MS 774 | Finite Fields-I | 2-2-0 | 4 | 4 |
| MS 775 | Finite Fields-II | 2-2-0 | 4 | 4 |


Controller of Examinations
Tezpur University
Tezpur, Assam

L: Lectures T: Tutorials P: Practical CH: Contact Hours (all per week) CR: Credit

A student has to complete total 16 Credit including Research Methodology in Mathematical Sciences (MS 750, RP799); any two from the above elective courses, i.e. **Total Credit form elective courses** to be completed by a student = 8, one CBCT course of CR-4 offered by other departments. Elective