

Course Structure: Five year Integrated M. Sc. in Mathematics

semester	Course code	Course Title	L	T	P	Credit
Third Semester						
3rd	MA209	Theory of Linear Algebra	3	1	0	4
	MA111	Complex Variables and PDE: Mathematics - III	3	1	0	4
	MA112	Introduction to Data structures and Algorithms	3	0	0	3
	CS105	Object oriented Methodology	3	1	0	4
	CS106	Programming lab	0	0	3	1
	CH104	Green Technology (Environmental Science)	3	1	0	4
Semester Total						20
Fourth Semester						
4th	MA207	Probability and Statistics	3	0	0	3
	MA117	Discrete Mathematics	3	1	0	4
	MA118	Algebra - I	3	1	0	4
	MA119	Analysis - I	3	1	0	4
	HS107	Industrial Economics and Financial Management	3	0	0	3
	MA120	Programming Lab - II	0	0	6	2
Semester Total						20
Fifth Semester						
5th	MA121	Topology	3	1	0	4
	MA122	Advanced Calculus	3	1	0	4
	MA123	Ordinary Differential Equation	3	1	0	4
	MA124	Numerical Analysis	3	0	0	3
	MA125	Numerical Analysis Lab	0	0	3	1
	MA126	Functional Analysis	3	1	0	4
Semester Total						20
Sixth Semester						
6th	MA127	Operations Research	3	0	0	3
	MA128	Operations Research Lab	0	0	3	1
	MA129	Partial Differential Equation	3	1	0	4
	MA130	Measure Theory and Integration	3	1	0	4
	MA1xx	Elective – 1 (From Elective Group A)	3	0	0	3
	MA1xx	Elective – 2 (From Elective Group A)	3	0	0	3
	MA191	Seminar	0	0	6	2
	GE103	Industrial Interaction and Soft Skill Development	0	0	3	0
Semester Total						20
Summer internship (2 months) compulsory and to be done during Summer Vacation and shall be evaluation in						
Seventh Semester						
	MA131	Introduction to Continuum mechanics	3	1	0	4

7th	MA132	Numerical Solutions of Ordinary and Partial Differential Equation	3	1	0	4
	MA133	Numerical ODE and PDE Lab	0	0	3	1
	MA1xx	Elective - 3 (From Elective Group B)	3	0	0	3
	MA1xx	Elective – 4 (From Elective Group B)	3	0	0	3
	DD1xx	Open Elective - I	3	0	0	3
	MA190	Industrial Training	0	0	3	1
Semester Total						19
Eight Semester						
8th	MA135	Theory of Computation	3	1	0	4
	MA136	Mathematical Logic	3	0	0	3
	MA1xx	Elective - 5 (From Elective Group B)	3	0	0	3
	MA1xx	Elective – 6 (From Elective Group B)	3	0	0	3
	DD1xx	Open Elective – II (HSS/Science/ Engg. Dept Elective)	3	0	0	3
	MA194	Minor Project	0	0	12	4
Semester Total						20
Ninth Semester						
9th	MA192	Seminar and Comprehensive Viva - I	0	0	6	2
	MA195	Thesis (to be continued)	0	0	48	16
Semester Total						18
Tenth Semester						
10th	MA193	Seminar and Comprehensive Viva - II	0	0	6	2
	MA196	Thesis	0	0	48	16
Semester Total						18
Grand Total						200
List of Electives Group - A						
Group A (EL)	MA141	Probability Theory- I	3	0	0	3
Group A (EL)	MA142	Algebra-II	3	0	0	3
Group A (EL)	MA143	Commutative Algebra	3	0	0	3
Group A (EL)	MA144	Differential Geometry	3	0	0	3
Group A (EL)	MA145	Algebraic Topology	3	0	0	3
Group A (EL)	MA146	Number Theory	3	0	0	3
Group A (EL)	MA147	Applied Matrix Theory	3	0	0	3
Group A (EL)	MA148	Approximation Theory	3	0	0	3
Group A (EL)	MA149	Advanced Complex Analysis	3	0	0	3
Group A (EL)	MA150	Computational Linear Algebra	3	0	0	3
Group A (EL)	MA151	Fluid Dynamics	3	0	0	3
Group A (EL)	MA152	Statistical Inference-I	3	0	0	3
List of Electives Group - B						

Group B (EL)	MA161	Probability Theory- II	3	0	0	3
Group B (EL)	MA162	Stochastic Processes	3	0	0	3
Group B (EL)	MA163	Mathematical Methods	3	0	0	3
Group B (EL)	MA164	Optimization	3	0	0	3
Group B (EL)	MA165	Statistical Simulation and Data Analysis	3	0	0	3
Group B (EL)	MA166	Multivariate Analysis	3	0	0	3
Group B (EL)	MA167	Statistical Inference-II	3	0	0	3
Group B (EL)	MA168	Time Series Analysis	3	0	0	3
Group B (EL)	MA169	Finite Element Method	3	0	0	3
Group B (EL)	MA170	Computational fluid dynamics	3	0	0	3
Group B (EL)	MA171	Financial Mathematics	3	0	0	3
Group B (EL)	MA172	Graph theory and algorithms	3	0	0	3
Group B (EL)	MA173	Nonlinear dynamical System	3	0	0	3
Group B (EL)	MA174	Neural Network	3	0	0	3
Group B (EL)	MA175	Parrallel Numerical Algorithms	3	0	0	3
Group B (EL)	MA176	Similarity transformation and perturbation method	3	0	0	3
Group B (EL)	MA177	Banach Algebra	3	0	0	3
Group B (EL)	MA178	Advanced Numerical Methods	3	0	0	3
Group B (EL)	MA179	Nonlinear Programming	3	0	0	3
Group B (EL)	MA180	Theory of Operator	3	0	0	3