ST JOSEPH'S UNIVERSITY, BENGALURU

DEPARTMENT OF MATHEMATICS

M.Sc. MATHEMATICS – CREDIT STRUCTURE (A.Y. 2027–29)

POSTGRADUATE PROGRAMME

Semester	Course Type	Course Code	Course Title	Instructional Hours	Credits	Total Marks
I	Theory	MTBC7626	Fundamentals of Higher Mathematics	30	2	50
I	Theory	MT 7127	Algebra I	60	4	100
I	Theory	MT 7221	Real Analysis	60	4	100
I	Theory	MT 7321	Linear Algebra	60	4	100
I	Theory	MT 7424	Ordinary Differential Equations	60	4	100
I	Theory	MT 7527	Graph Theory	60	4	100
I	Practical	MT 7P124	Linear Algebra and ODE with SageMath	44	2	50
I	Practical	MT 7P224	Graph Theory with SageMath	44	2	50
II	Theory	MT 8121	Algebra II	60	4	100
II	Theory	MT 8221	Measure and Integration	60	4	100
II	Theory	MT 8325	Complex Analysis	60	4	100
II	Theory	MT 8421	Partial Differential Equations	60	4	100
II	Theory	MT 8521	Topology	60	4	100
II	Theory	MT 8626	Probability and Statistics	60	4	100
II	Practical	MT 8P26	Probability and Statistics with R Programming	44	2	50
III	Theory	MT 9122	Functional Analysis	60	4	100
III	Theory	MT 9227	Classical and Continuum Mechanics	60	4	100
III	Theory	MTDE 9322 OR MTDE 9427	Graphs and Matrices OR Optimization Techniques (Elective)	60	4	100
III	Theory	MT 9525	Mathematical Methods	45	3	100
III	Theory	MT 9625	Numerical Analysis	60	4	100
III	Practical	MT 9P25	Numerical Analysis with SageMath	44	2	50
III	Project	MT 9R125	Introduction to Mathematical Research	33	2	50
IV	Theory	MT 0125	Differential Geometry	60	4	100
IV	Theory	MT 0226	Fluid Mechanics	60	4	100
IV	Theory	MT 0326	Applied Stochastic Processes	45	3	100
IV	Theory	MTDE 0425 OR MTDE 0525	Advanced Graph Theory OR Number Theory (Elective)	60	4	100
IV	Project	MT9R225	Project	22	6	150
			SEMESTER I TOTAL		**26**	
			SEMESTER II TOTAL		**26**	
			SEMESTER III TOTAL		**23**	
			SEMESTER IV TOTAL		**21**	
			TOTAL PROGRAMME CREDITS		**96**	

Notes

- Semester III: Students may choose an NPTEL (SWAYAM) course of 3 credits from among PG-level Mathematics courses instead of MT 9525. Approval is subject to the decision of the advisory committee set up by the PG Coordinator.
- Semester IV: Students may choose an NPTEL (SWAYAM) course of 3 credits from among PG-level Mathematics courses instead of MT 0325. Approval is subject to the decision of the advisory committee set up by the PG Coordinator.
- Elective alternatives are listed together in the course title and code columns.