

B. Tech. in Mathematics and Computing – (Applicable from 2025 admitted Batch onwards)
Program offered by School of Basic Sciences, Humanities & Management jointly with School of Computer Engineering, MIT Manipal

Year	THIRD SEMESTER						FOURTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
II	SMM 2101	Computational Linear Algebra	3	1	0	4	SMM 2201	Algebraic Structures	2	1	0	3
	SMM 2102	Probability and Stochastic Process	3	0	0	3	SMM 2202	Real Analysis	3	0	0	3
	SMM 2103	Elementary Number Theory	2	1	0	3	SMM 2203	Mathematical Logic and Computability	3	0	0	3
	SMM 2104	Discrete Mathematics	2	1	0	3	SMM 2204	Vector Analysis and Complex Variables	2	1	0	3
	CES 2101	Data Structures	3	1	0	4	CES 2201	Database Systems	3	1	0	4
	CEM 2101	Advanced Programming	3	0	0	3	CES 2204	Operating Systems	3	0	0	3
	CEM 2111	Advanced Programming Lab	0	0	3	1	CES 2211	Operating Systems Lab	0	0	3	1
	CES 2111	Data Structures Lab	0	0	3	1	CEM 2211	Database Lab	0	0	3	1
			16	4	6	22			15	3	6	21
	Total Contact Hours (L + T + P)		26				Total Contact Hours (L + T + P)		24			

Year	FIFTH SEMESTER						SIXTH SEMESTER					
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C
III	SMS 3003	Foundation of Technology Management	2	1	0	3	SMS 3004	Emerging Economic Landscape	2	1	0	3
	SMM 3101	Multivariate Analysis	3	0	3	4	SMM 3201	Advanced Numerical Methods	3	1	0	4
	SMM 3102	Artificial Intelligence	3	0	0	3	SMM 3202	Time Series Analysis	3	0	3	4
	SMM 3103	Algorithms and Computational Complexity	3	0	0	3	SMP 4XXX	Program Elective–I/Minor Specialization	3	0	0	3
	CEM 3101	Fundamentals of Machine Learning	3	0	3	4	SMP 4XXX	Program Elective–II/Minor Specialization	3	0	0	3
	SMM 3111	Algorithms and Computational Complexity Lab	0	0	3	1	SMM 3211	Scientific Computing Lab	0	0	3	1
	IOE 3XXX	Open Elective –1	3	0	0	3	IOE 3XXX	Open Elective – 2	2	1	0	3
			17	1	6	21			18	3	6	21
	Total Contact Hours (L + T + P)		24				Total Contact Hours (L + T + P)		27			

Year	SEVENTH SEMESTER						EIGHTH SEMESTER						
	Sub. Code	Subject Name	L	T	P	C	Sub. Code	Subject Name	L	T	P	C	
IV	SMP 4XXX	Program Elective – III/ Minor Specialization	3	0	0	3	CES/SMM 4299	Industrial Training /Internship (MLC)				1	
	SMP 4XXX	Program Elective – IV/ Minor Specialization	3	0	0	3	CES/SMM 4999	Capstone Project				12	
	SMP 4XXX/ CEP 44XX	Program Elective – V	3	0	0	3	CEH/SMH 5999	Project Work (B Tech – honours)**				20	
	SMP 4XXX	Program Elective – VI	3	0	0	3	CEH/SMH 5XXX	B Tech – honours (Theory 1**) (V semester)				4	
	*****	Program Elective – VII	3	0	0	3	CEH/SMH 5XXX	B Tech – honours Theory 2** (VI semester)				4	
	IOE 3XXX	Open Elective – 3	3	0	0	3	CEH/SMH 5XXX	B Tech – honours Theory 3** (VII semester)				4	
	*** 4199	Mini Project (Minor specialization) *				8							
			18	0	0	18/2 6						13/33	
	Total Contact Hours (L + T + P)		18			Total Contact Hours (L + T + P)							

*Applicable to students who opted for minor specialization

**Applicable to eligible students who opted for and successfully completed the B Tech – honours requirements

Minor Specializations:	Other Program Electives:
Optimization and Decision Sciences SMM 4301: Linear Optimization SMM 4302: Non-Linear Optimization SMM 4303: Combinatorics and Design of Experiments SMM 4304: Game Theory and Statistical Decisions Algorithms and Coding Theory SMM 4305: Applied Graph Theory SMM 4306: Matrix Theory SMM 4307: Advanced Algorithms and Deep Learning SMM 4308: Algebraic Coding Theory	SMP 4401: Big Data Analytics SMP 4402: Computational Fluid Dynamics SMP 4403: Functional Programming SMP 4404: Fuzzy Logic and Neural Networks SMP 4405: Geometric Topology SMP 4406: Mathematics for Finance SMP 4407: Reliability Theory SMP 4408: Theory of Computation SMP 4409: Topology of Metric Spaces SMP 4410: Advanced Number Theory and Cryptography