

B.Tech. Course Structure for Mathematics and Computing (without Minor or Second Major 2025-2026 onwards)						
Category	Deviation	B.Tech. with Internship Programme Components	Proposed (Min.)	Recommended (IV Years)		
				Min	Max	
HLM	0	Humanities, Social Science, Language and Management	11	10	NA	
IS	0	Science	25	22	NA	
IE	-1	Institute Requirement Engineering/ Pharmacy	14	15	NA	
EP	0	Engineering Drawing (Manual and Computer Aided), Manufacturing Practices and Practice course of Department / School	8	8	NA	
DC+DE	0	Department/Programme Core + Electives	70	68	NA	
OE	0	Open Elective (Interdisciplinary Stream courses from Science/ Engineering/Pharmacy)	6	6	NA	
Indl/RI/SUE	0	Industrial/research internship/Start-up or Entrepreneurship	15	15	NA	
DP	0	Exploratory project	3	3	3	
		Total	152	147	165	
SP	0	Stream Projects for B. Tech Honours	10	10	10	
		All Semester Total (Hons)	162	157	175	
B.Tech Course Structure for Mathematics and Computing (without Minor or Second Major 2025-2026 onwards)						
UG-CRC Code	Course Code	Course Name	L	T	P	Credits
Mathematics and Computing: : 4-Year B.Tech. I-Semester						
GY.PE101.14	PE101	Elementary Physical Education	0	1	3	2.5
GY.PE101.14	CP101	Creative Practices #	0	1	3	2.5
IH.H101.14	HLM101	Universal Human Values	2	0	0	2
		Total	2	2	6	7
LM.HL101.14	HLM102	English*	2	0	0	2
		Total	4	2	6	9
Note that these are non-credit courses in the first year.						

#Creative Practices course to be announced by Dean Academic Office.						
*Basic English course to be taken by student as recommended after Diagnostic Test.						
Mathematics and Computing:: 4-Year B.Tech. I-Semester						
IS.PHY 102.14	PHY102	Introduction to Engineering Electromagnetic	3	1	2	5
IS.MA 101.25	MA101	Engineering Mathematics - I	3	1	0	4
DC.MA 111.14	MA111	Algebra	3	1	0	4
IE.CSO 101.25	CSO101	Computer Programming	3	1	2	5
EP.ME 106.14	ME106	Manufacturing Practice II	0	0	3	1.5
EP.ME 104.14	ME104	Engineering Drawing	1	0	3	2.5
		Total	13	4	10	22
Mathematics and Computing: : 4-Year B.Tech. II-Semester						
IS.MA 102.25	MA102	Engineering Mathematics - II	3	1	0	4
MC.CSE 101.25	CSE101	Data Structures	3	0	2	4
IE.EO 102.14	EO102	Fundamentals of Electronics and Instrumentation Engg.	3	1	2	5
EP.MA 104.14	MA104	Information Technology and Computing Workshop	1	0	3	2.5
EP.ME 105.14	ME105	Manufacturing Practice-I	0	0	3	1.5
HLM-1	HLM-1	HLM-1	3	0	0	3
		Total	13	2	10	20
Mathematics and Computing: : 4-Year B.Tech. III-Semester						
IS. MA 201.25	MA201	Mathematical Methods	3	1	0	4
DC. MA 221.25	MA221	Real and Complex Analysis	3	0	0	3
DC.MA 212.25	MA212	Linear Algebra	3	0	0	3
IE.ME 102.14	ME102	Engineering Mechanics	3	1	0	4
DC.MA 251.25	MA251	Discrete Mathematics+	3	0	0	3
DC.MA 231.25	MA231	Differential Equations	3	0	0	3
		Total	18	2	0	20
+ Multicore subject offered by Math Sc. To CSE.						

Mathematics and Computing: : 4-Year B.Tech. IV-Semester						
IS.MA 202.25	MA202	Probability and Statistics	3	1	0	4
IS. MA 203.25	MA203	Numerical Techniques	3	1	0	4
MC.CSE 205.25	CSE205	Theory of Computation #	3	0	0	3
MC.CSE 203.25	CSE203	Algorithms #	3	0	2	4
MC.CSE 204.25	CSE204	Operating Systems #	3	0	2	4
DP.MA 291.15	MA291	Exploratory Project	0	0	6	3
		Total	15	2	10	22
# Multicore subject offered by CSE to Math Sc.						
Mathematics and Computing: : 4-Year B.Tech. V-Semester						
MC.CSE 301.25	CSE301	Database Management System#	3	0	2	4
MC.CSE 302.25	CSE302	Computer Networks#	3	0	2	4
DC.MA 341.25	MA341	Graph Theory and Applications+	3	0	0	3
OE - 1	OE - 1	Open Elective - 1	3	0	0	3
OE - 2	OE - 2	Open Elective - 2	3	0	0	3
		Total	15	0	4	17
+ Multicore subject offered by Math Sc. To CSE.						
# Multicore subject offered by CSE to Math Sc.						
Mathematics and Computing: : 4-Year B.Tech. VI-Semester						
DP.II/RI/SE 391.25	II/RI/SE 391	Internship	0	0	30	15
DE-1	DE-1	NPTEL/SWAYAM - Departmental Elective (DE)- 1	3	0	0	3
		Total	3	0	30	18
Mathematics and Computing: : 4-Year B.Tech. VII-Semester						
DC.MA 431.25	MA431	Numerical Solution of PDEs	3	0	2	4
DE - 2	DE - 2	Departmental Elective (DE)- 2	3	0	0	3

DE - 3	DE - 3	Departmental Elective (DE)- 3	3	0	0	3
DE - 4	DE - 4	Departmental Elective (DE)- 4	3	0	0	3
HLM-2	HLM-2	HLM-2	3	0	0	3
		Total	15	0	2	16
DP.MA 491.25	MA491	Stream Project (Hons. Students)	0	0	10	5
		Total	15	0	12	21
Only the minimum required credits are considered for the total credit count. However, the total number of credits may increase depending on the selection of DEs.						
VII Semester Elective / Stream DE-3, DE-3 & DE-4 Courses (any three)						
DE.MA 411.25	MA411	Cryptography	3	0	2	4
DE.MA 412.25	MA412	Information and Coding Theory	3	0	2	4
DE.MA 421.25	MA421	Approximation Theory	3	0	0	3
DE.MA 441.25	MA441	Mathematical Modeling and Simulation	3	0	2	4
DE.MA 442.25	MA442	Fluid Dynamics	3	0	0	3
DE.MA 443.25	MA443	Digital Image Processing	3	0	2	4
DE.MA 451.25	MA451	Stochastic Processes	3	0	2	4
DE.MA 452.25	MA452	Operations Research	3	0	0	3
Mathematics and Computing: : 4-Year B.Tech. VIII-Semester						
DC.MA 422.25	MA422	Topology and Functional Analysis	3	0	0	3
DE - 5	DE - 5	Departmental Elective (DE)- 5	3	0	0	3
DE - 6	DE - 6	Departmental Elective (DE)- 6	3	0	0	3
DE - 7	DE - 7	Departmental Elective (DE)- 7	3	0	0	3
HLM-3	HLM-3	HLM-3	3	0	0	3
		Total	15	0	0	15
DP.MA492.25	MA492	Stream Project	0	0	10	5
		Total	15	0	10	20
Only the minimum required credits are considered for the total credit count. However, the total number of credits may increase depending on the selection of DEs.						

*VIII Semester Elective / Stream DE-5, DE-6 & DE-7 Courses (any three)						
DE.MA 413.25	MA413	Number Theory	3	0	0	3
DE.MA 414.25	MA414	Finite Field	3	0	0	3
DE.MA 423.25	MA423	Complex Analysis	3	0	0	3
DE.MA 424.25	MA424	Hilbert Space Techniques	3	0	0	3
DE.MA 425.25	MA425	Distribution Theory	3	0	0	3
DE.MA 426.25	MA426	Measure Theory	3	0	0	3
DE.MA 432.25	MA432	Integral Equations and Calculus of Variation	3	0	0	3
DE.MA 444.25	MA444	Finite Element Analysis	3	0	0	3
DE.MA 453.25	MA453	Optimization Techniques	3	0	2	4
DE.MA 454.25	MA454	Financial Mathematics	3	0	0	3
DE.MA 461.25	MA461	Algebraic Graph Theory	3	0	0	3
DE.MA 462.25	MA462	Discrete Optimization and Networks	3	0	0	3