

Program name : B.Sc. (Hons. with Research) Mathematics

SNo	Sem	Course title	Credits	Credit Distribution				Type of Course											CIE (100)	SEE (100)	Remark
				lecture	Tutorial	Practical	Self Study	Core	Elective	Multi Disciplinary	SEC	VAC	AEC	Project	Minor	Internship	Prerequisite	Mandatory			
1	I	Differential and Integral Calculus	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
2	I	Algebra	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
3	I	Trigonometry & Analytical Geometry	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
4	I	Ecology and Environment	2	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	100	100	
5	I	Health and Nutrition	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	100	100	
6	I	Introduction to Python programming	2	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	100	100	
7	I	Generic Elective/Minor-1	4				0	0	0	0	0	0	0	0	4	0	0	0	100	100	
8	II	Linear Algebra	4	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
9	II	Real Analysis I	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
10	II	Ordinary Differential equations & Mechanics	4	3	0	1	0	4	0	0	0	0	0	0	0	0	1	0	100	100	
11	II	Logical communication	2	1	0	1	0	0	0	0	0	0	2	0	0	0	0	0	100	100	
12	II	Art of Happiness	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	100	100	
13	II	Essentials of IT Tools	2	1	0	1	0	0	0	0	2	0	0	0	0	0	0	0	100	100	
14	II	Generic Elective/Minor-2	4				0	0	0	0	0	0	0	0	4	0	0	0	100	100	
15	III	Mathematical Statistics	4	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
16	III	Multivariable Calculus and Partial Differential equations	4	3	1	0	0	4	0	0	0	0	0	0	0	0	6	0	100	100	
17	III	Complex analysis	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
18	III	Critical thinking & Writing	2	2	0	0	0	0	0	0	0	0	2	0	0	0	0	0	100	100	
19	III	Vedic Mathematics	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100	100	
20	III	Introduction to Artificial Intelligence	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100	100	
21	III	Generic Elective/Minor-3	4				0	0	0	0	0	0	0	0	4	0	0	0	100	100	
22	IV	Real analysis- II	4	3	1	0	0	4	0	0	0	0	0	0	0	0	5	0	100	100	
23	IV	Computational Mathematics	4	3	0	1	0	4	0	0	0	0	0	0	0	0	8	0	100	100	
24	IV	Disaster Management	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	0	100	100	
25	IV	Cyber Sphere & Security Global Concern	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	100	100	
26	IV	Object Oriented Programming	3	2	0	1	0	0	0	3	0	0	0	0	0	0	0	0	100	100	
27	IV	Discrete Structures	3	3	0	0	0	0	0	3	0	0	0	0	0	0	0	0	100	100	
28	IV	Generic Elective/Minor-4	4				0	0	0	0	0	0	0	0	4	0	0	0	100	100	
29	V	Modern Algebra	4	3	1	0	0	4	0	0	0	0	0	0	0	0	2	0	100	100	
30	V	Operation research	4	3	0	1	0	4	0	0	0	0	0	0	0	0	0	0	100	100	
31	V	Discipline Specific Elective 1	4				0	0	4	0	0	0	0	0	0	0	0	0	100	100	
32	V	Research Methodology and Ethics	4	4	0	0	0	0	0	4	0	0	0	0	0	0	0	0	100	100	
33	V	Generic Elective/Minor-5	4				0	0	0	0	0	0	0	0	4	0	0	0	100	100	

34	V	Internship	2	0	0	4	0	0	0	0	0	0	0	0	0	0	2	-			100	100	
35	VI	Topology	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	10			100	100	
36	VI	Special functions & Transform	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	6			100	100	
37	VI	Skill Enhancement course- 5	2	2	0	0	0	0	0	0	2	0	0	0	0	0	0	-			100	100	
38	VI	Discipline Specific Elective 2	4				0	0	4	0	0	0	0	0	0	0	0	-			100	100	
39	VI	Discipline Specific Elective 3	4				0	0	4	0	0	0	0	0	0	0	0	-			100	100	
40	VI	Generic Elective/Minor-6	4				0	0	0	0	0	0	0	0	4	0	-				100	100	
41	VII	Functional Analysis	4	3	1	0	0	4	0	0	0	0	0	0	0	0	0	14			100	100	
42	VII	Discipline Specific Elective 4	4				0	0	4	0	0	0	0	0	0	0	0	-			100	100	
43	VII	Discipline Specific Elective 5	4				0	0	4	0	0	0	0	0	0	0	0	-			100	100	
44	VII	Discipline Specific Elective 6	4				0	0	4	0	0	0	0	0	0	0	0	-			100	100	
45	VII	Generic Elective/Minor-7	4				0	0	0	0	0	0	0	0	4	0	-				100	100	
46	VII	Generic Elective/Minor-8	4				0	0	0	0	0	0	0	0	4	0	-				100	100	
47	VIII	Dissertation	12		-	-	-	0	0	0	0	0	0	12	0	0	-				100	100	
		Total	168					64	24	10	10	6	8	12	32	2							

List of Elective Courses

SNo	Sem	Course title	Credits	Credit Distribution				Type of Course											CIE (100)	SEE (100)	Remark										
				lecture	Tutorial	Practical	Self Study	Core	Elective	Multi Disciplinary	SEC	VAC	AEC	Project	Minor	Internship	Prerequisite	Mandatory				Audit									
1	V	Optimization	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
2	V	Graph Theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
3	V	Advanced Numerical Techniques	4	3	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
4	VI	Measure theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
5	VI	Commutative Algebra	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
6	VI	Algebraic Number Theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
7	VI	Non Linear Analysis	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
8	VII	Algebraic Coding Theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
9	VII	Operator Theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
10	VII	Representation Theory	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
11	VII	Advanced Fourier Analysis & wavelets	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
12	VI	Modelling and Simulation	4	3	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
13	VI	General theory of Relativity	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
14	VI	Special theory of Relativity & Cosmology	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
15	VI	Fluid Mechanics	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
16	VII	Dynamics of rigid Bodies	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
17	VII	Number theory and Cryptography	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
18	VII	Biomathematics	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
19	VII	Financial Mathematics	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
20	VI	Machine Learning	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
21	VI	Probability and Inferential statistics	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
22	VI	Stochastic Processes	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
23	VI	Deep Learning and Text Mining	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
24	VII	Time series and forecasting	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
25	VII	Database Management system	4	3	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
26	VII	Bayesian Statistical Modelling	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
27	VII	Data Mining and Warehouse	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
28	VI	Theory of Automata	2	2	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
29	VI	Data Structure with Algorithm	4	3	0	1	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
30	VI	Cloud computing	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
31	VII	Internet of things	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
33	VII	Blockchain and its application	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	
34	VII	Design and Analysis of Algorithm	4	3	1	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	100	