

B.Tech. in Mathematics & Computing
Semester-wise Course Structure (2023-27 Batch)
(w.e.f. AY 2026-27)

Semester I (1 Year: Odd Sem)

Course/Subject	L	T	P	Credit
Classical Physics (IS) (PY111)	3	1	0	11
Inorganic and Physical Chemistry (IS) (CY111)	3	1	0	11
Real Analysis and Calculus (IS) (MA 111)	3	1	0	11
Computer Programming (IE) (CS101)	3	1	2	13
Biology (IS) (BY101)	2	1	0	8
Chemistry Lab (IS) (CY111L)	0	0	1	1
Physics Lab (IS) (PY111L)	0	0	1	1
Engineering Graphics (EP) (ME121)	0	0	3	3
Total Credits				59
Univershal Human Values (HU) (HU101)	1	1	0	5
Basic English (HU)* (LM101)	1	2	0	7

Semester II (1 Year: Even Sem)

Course/Subject	L	T	P	Credit
Modern Physics (IS) (PY121)	2	1	0	8
Differential Equations (IS) (MA121)	3	1	0	11
Engineering Thermodynamics (IE) (CH161)	3	1	0	11
Fundamentals of Electronics Engineering (IE) (EC102)	3	1	2	13
Engineering Practices in Mathematics and Computing (EP) (MA122)	1	0	2	5
Chemistry Lab (IS) (CY121L)	0	0	1	1
Physics Lab (IS) (PY121L)	0	0	1	1
Workshop Practices (EP) (ME131)	0	0	3	3
Total Credits				53
Community Internship (HU)	0	0	5	5

Semester III (2 Year: Odd Sem)

Course/Subject	L	T	P	Credit
Linear Algebra & Complex Analysis (IS) (MA 211)	2	1	0	8
Discrete Mathematics (DC/CSE) (CS201)	3	0	0	9
Data Structures (IE/CSE) (CS211)	3	0	2	11
Object Oriented Methodologies (DC/CSE) (CS224)	3	0	2	11

Elementary Number Theory and Algebra (DC) (MA 212)	3	1	0	11
Professional Communications (L) (PC101)	2	1	0	8
Total Credits				58

Semester IV (2 Year: Even Sem)

Course/Subject	L	T	P	Credit
Database Management Systems (DC/CSE) (CS212)	3	0	2	11
Computer Organization and Architecture (DC/CSE) (CS232)	3	0	0	9
Numerical Methods (IS) (MA 221)	2	1	0	8
Statistical Methods and Data Analysis (IS) (MA 231)	2	1	0	8
Web Technology (DC/CSE) (CS 222)	3	0	2	11
Financial Engineering-I (DC) (MA 241)	3	0	0	9
Group Discussion (EP) (GD111)	0	0	2	2
Total Credits				58

Semester V (3 Year: Odd Sem)

Course/Subject	L	T	P	Credit
Operating Systems (DC/CSE) (CS311)	3	0	2	11
Computational PDE (DC) (MA 321)	3	0	0	9
Introduction to Machine Learning (DC) (MA351)	2	0	2	8
Advanced Algorithms (DC/CSE) (CS341)	3	0	2	11
DE-1 (DE)	3	0	0	9
Theory of Computation (DC/CSE) (CS321)	3	0	0	9
Total Credits				57

Semester VI (3 Year: Even Sem)

Course/Subject	L	T	P	Credit
Computer Networks (DC/CSE) (CS351)	3	0	2	11
Data Mining (DC/CSE) (CS458)	2	0	3	9
Stochastic Processes (DC) (MA 331)	3	0	0	9
DE-2*	3	0	0	9
DE-3*	3	0	0	9
Operations Research (DC) (MA325)	3	0	0	9
Total Credits				56

*DE-2: Data Analytics (CS457) / Financial Engineering-II (MA 342)

*DE-3: Devops & Cloud (CS331) / Financial Management (MT5306)

After Semester VI

Course/Subject	L	T	P	Credit
Summer Internship (6 weeks)	0	0	5	5

Semester VII (4 Year: Odd Sem)

Course/Subject	L	T	P	Credit
Employability Skills and Industry Readiness	0	0	2	2
DE-4*	3	0	0	9
Principles of Economics (MT5100) [LM-1]	2	0	0	6
OE-1 (OE)	3	0	0	9
Organizational Psychology (HU331)	2	0	0	6
Total Credits				32

*DE-4: Computational Intelligence (MA451) / Data Analytics (CS457)

Semester VIII (4 Year: Even Sem)

Course/Subject	L	T	P	Credit
BTP (Internal/External)	0	0	40	40
Sociology of Industry and Work Culture (HU313)	2	0	0	6
OE-2 (OE)	3	0	0	9
Foundations of Management (MT5405)	2	0	0	6
Total Credits				61

References:

IIT Delhi, IIT Guwahati, IIT Kanpur, IIT Ropar, IIT BHU, IIT Patna and Delhi Technological University.