

## B.Tech. in Mathematics & Computing

### Semester-wise Course Structure (2025-29 Batch)

(w.e.f. AY 2025-26)

#### 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
Chemistry Lab (IS) (CY111L)	0	0	1	1
Physics Lab (IS) (PY111L)	0	0	1	1
Engineering Visualization (EP) (ME121)	0	1	3	5
<b>Total Credits</b>				<b>53</b>
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
Physics Lab (IS) (PY121L)	0	0	1	1
Differential Equations (IS) (MA121)	3	1	0	11
Engineering Thermodynamics (IE) (CH161)	3	1	0	11
Fundamentals of Electronics Engineering (IE) (EC111)	3	1	0	11
Fundamentals of Electronics Engineering Lab (IE) (EC111L)	0	0	2	2
Engineering Practices in Mathematics and Computing (EP) (MA122)	1	0	2	5
Workshop Practices (EP) (ME131)	0	0	3	3
<b>Total Credits</b>				<b>52</b>
Community Internship (HU)	0	0	5	5

#### After Semester II

Course/Subject	L	T	P	Credit
Summer Internship - I (2 weeks)	0	0	14	2

**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) (MA213)	3	0	0	9
Data Structure and Algorithm (IE/CSE) (CS211)	3	0	0	9
Data Structure and Algorithm Lab (DC/CSE) (CS211L)	0	0	2	2
Object Oriented Methodologies (DC/CSE) (CS224)	3	0	0	9
Object Oriented Methodologies Lab (DC/CSE) (CS224L)	0	0	2	2
Elementary Number Theory and Algebra (DC) (MA 212)	3	1	0	11
Professional Communications (L) (PC101)	2	1	0	8
<b>Total Credits</b>				<b>58</b>

**Semester IV (2 Year: Even Sem)**

Course/Subject	L	T	P	Credit
Database Management Systems (DC/CSE) (CS212)	3	0	0	9
Database Management Systems Lab (DC/CSE) (CS212L)	0	0	2	2
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
Design and Analysis of Algorithms (CS241)	3	0	0	9
Design and Analysis of Algorithms Lab (CS241L)	0	0	2	2
Artificial Intelligence (CS360)	3	0	0	9
Artificial Intelligence Lab (CS360L)	0	0	2	2
Financial Engineering-I (MA 241) (DE-1)	3	0	0	9
<b>Total Credits</b>				<b>67</b>

**After Semester IV**

Course/Subject	L	T	P	Credit
Summer Internship - II (4 weeks)	0	0	11	3

**Semester V (3 Year: Odd Sem)**

Course/Subject	L	T	P	Credit
Operating Systems (DC/CSE) (CS311)	3	0	0	9
Operating Systems Lab (DC/CSE) (CS311L)	0	0	2	2
Introduction to Machine Learning (DC) (MA351)	2	0	0	6
Introduction to Machine Learning Lab (DC) (MA351L)	0	0	2	2
Computational PDEs (DC) (MA 321)	2	0	0	6
Computational PDEs Lab (DC) (MA 321L)	0	0	2	2
Mathematical Finance (MA 341) (DE-2)	3	0	0	9
Data Analytics (CS457)	3	0	0	9
Theory of Computation (DC/CSE) (CS321)	3	0	0	9
<b>Total Credits</b>				<b>54</b>

**Semester VI (3 Year: Even Sem)**

Course/Subject	L	T	P	Credit
Computer Networks (DC/CSE) (CS351)	3	0	0	9
Computer Networks Lab (DC/CSE) (CS351L)	0	0	2	2
Data Mining (DC/CSE) (CS458)	3	0	0	9
Data Mining Lab (DC/CSE) (CS458L)	0	0	2	2
Stochastic Processes (DC) (MA331)	3	0	0	9
Financial Engineering-II (MA342) (DE-3)	3	0	0	9
Operations Research (DC) (MA325)	3	0	0	9
Devops & Cloud (CS331)	3	0	0	9
<b>Total Credits</b>				<b>58</b>

**After Semester VI**

Course/Subject	L	T	P	Credit
Summer Internship - III (6 weeks)	0	0	12	5

**Semester VII (4 Year: Odd Sem)**

Course/Subject	L	T	P	Credit
Computational Intelligence (MA451) (DE-4)	3	0	0	9
OE-1 (OE)	3	0	0	9
OE-2 (OE)	3	0	0	9
Principles of Economics (MT5100) [LM-1] / Leadership and People Management [CDC]	2	0	0	6
Ethics and Corporate Governance (HU) [CDC]	2	0	0	6
Foundations of Management (MT5405) [LM-2]	2	0	0	6
Organizational Psychology (HU331)	2	0	0	6
Sociology of Industry and Work Culture (HU313)	2	0	0	6
Employability Skills and Industry Readiness [CDC]	0	0	2	2
<b>Total Credits</b>				<b>59</b>

**Semester VIII (4 Year: Even Sem)**

Course/Subject	L	T	P	Credit
BTP (Internal/External)	0	0	40	40