

## B. Tech. in Communication and Computer Engineering

### 1<sup>st</sup> Semester:

S. No.	Course Code	Course Description	Type	L	T	P	Credits
1	PHY102	Classical Physics	IC	3	1	0	4
2	PHY113	UG Physics Laboratory	IC	0	0	3	2
3	MTH102	Mathematics – I	IC	3	1	0	4
4	ECE105	Basic Electronics	IC	3	1	0	4
5	ECE106	Basic Electronics Lab	IC	0	0	3	2
6	CSE104	Computer Programming	IC	3	0	0	3
7	CSE104(L)	Computer Programming Lab	IC	0	0	3	2
8	ENG105(B)	Technical Communication in English	IC	3	0	0	3
<b>Total Credits = 24</b>							

### 2<sup>nd</sup> Semester:

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1	MTH108	Mathematics – II	IC	3	1	0	4
2	CSE213	Data Structures and Algorithms	IC	3	0	0	3
3	CSE213(L)	Data Structures and Algorithms Lab	IC	0	0	2	1
4	MME201	Environmental Ecology & Biology	IC	3	0	0	3
5	HSS102	Value Education and Ethics	IC	3	0	0	3
6	ECE111	Analog Electronics	PC	3	0	0	3
7	CSE119	Discrete Mathematical Structures	PC	3	0	0	3
8	PHY108	Physics – II	OE	3	0	0	3
<b>Total Credits = 20</b>							

### 3<sup>rd</sup> Semester:

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1	MTH213	Mathematics – III	IC	3	1	0	4
2	CSE216	Computer Organization and Architectures	PC	3	0	2	4
3	CSE226	Advanced Programming	PC	3	0	2	4
4	ECE217	Signals and Systems	PC	3	0	0	3
5	ECE214	Digital Circuits and Systems	PC	3	0	0	3
6	ECE215	Digital Circuits and Systems Lab	PC	0	0	3	2
7	CSE227	Information and Database Management Systems	PC	3	0	2	4
<b>Total Credits = 24</b>							

### 4<sup>th</sup> Semester:

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1	CSE325	Design and Analysis of Algorithms	PC	3	0	0	3
2	CSE222	Operating Systems	PC	3	0	2	4
3	ECE327	Control System Engineering	PC	3	0	0	3
4	ECE220	Principles of Communication	PC	3	0	0	3
5	ECE223	Signal Systems and Communication Lab	PC	0	0	3	2
6	MTH222	Probability and Statistics	PC	3	1	0	4
<b>Total Credits = 19</b>							

**5<sup>th</sup> Semester:**

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1	HSS204/ HSS203	Economics for Engineers / Psychology, Technology and Society	IC	3	0	0	3
2	CSE327	Introduction to Data Science	PC	3	0	0	3
3	CSE328	Artificial Intelligence	PC	3	0	0	3
4	ECE325	Digital Communication	PC	3	0	0	3
5	ECE324	Digital Communication Lab	PC	0	0	3	2
6	ECE326	Digital Signal Processing	PC	3	0	0	3
7	ECE323	Digital Signal Processing Lab	PC	0	0	3	2
8	CSE326	Software Engineering	PC	3	0	0	3
<b>Total Credits = 22</b>							

**6<sup>th</sup> Semester:**

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1	HSS204/ HSS203	Economics for Engineers / Psychology, Technology and Society	IC	3	0	0	3
2	CSE332	Computer Networks	PC	3	0	2	4
3	ECE3062	Internet of Things	PC	3	0	2	4
4		BTP	IC	3	0	0	3
5		Program Elective – 1	PE	3	0	0	3
6		Other Elective – 1	OE	3	0	0	3
<b>Total Credits = 20</b>							

**7<sup>th</sup> Semester:**

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1		BTP	IC	3	0	0	3
2		Program Elective – 2	PE	3	0	0	3
3		Program Elective – 3	PE	3	0	0	3
4		Other Elective – 2	OE	3	0	0	3
5		Other Elective – 3	OE	3	0	0	3
<b>Total Credits = 15</b>							

**8<sup>th</sup> Semester:**

Sr. No.	Course Code	Course Description	Type	L	T	P	Credits
1		Program Elective – 4	PE	3	0	0	3
2		Other Elective – 4	OE	3	0	0	3
<b>Total Credits = 6</b>							

<b>Total Credits</b>	<b>150</b>
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**Selective list of Programme Electives:**

<b>S. No.</b>	<b>Name of course</b>
1	Artificial Intelligence
2	Cloud Computing
3	Computer Graphics
4	Compiler Optimization
5	Computer Security
6	Data Mining
7	Enterprise Architecture
8	Entrepreneurship Practice
9	Functional and Non-Functional Testing
10	Genetic Algorithms & Applications
11	Introduction to Artificial Intelligence
12	Introduction to Convex Optimization
13	Information Retrieval
14	Introduction to Randomized Algorithms
15	Information Retrieval and Web Search
16	Introduction to Simulation & Modeling
17	Mobile Ad Hoc Networks
18	Machine Learning and Pattern Recognition
19	Mathematical Structures for Engineers
20	Optimization Techniques
21	Optimization Techniques and Applications
22	Parallel Computer Architecture
23	Principles of Programming Languages
24	Real Time Systems
25	Software Metrics and Design Strategies
26	Unconventional Models of Computation
27	Advanced DSP
28	Analog VLSI Circuits
29	Antenna Engineering
30	Broadband Communication
31	Co-operative Communication based Advanced Wireless Systems
32	Design for Testability
33	Digital Image Processing
34	Digital Systems Design with FPGAs
35	Embedded Systems
36	Embedded Systems and Design
37	Information Theory and Coding
38	Microwave Circuits and Systems
39	Modeling and Simulation
40	Modern Digital Communication
41	Telecommunications Switching Systems and Networks
42	Wireless Communication

**Selective list of Other Electives:**

S. No.	Name of course
1	Active Directory
2	Algebra
3	Automotive Electronics
4	Autosar
5	Basics of Finance and Soft Skills
6	Bio-Medical Engineering
7	Biosensors: Concepts and Applications
8	Cinema and Indian Society
9	Classical Mechanics and Field Theory
10	Colonialism and the Making of Modern India
11	Computational Physics
12	Corpus Pragmatics
13	Digital VLSI Circuits
14	Electrical Machines & Power Systems
15	Engineering Chemistry
16	Entrepreneurship Practice
17	Ethnic Conflict: Literature and South Asia
18	French
19	Graph Theory
20	Green Communication and Networking
21	Indian Modernity: Text & Context
22	Industrial Engineering and Management
23	Industrial Management
24	International Economics and Soft Skills
25	Internet of Things
26	Introduction to Nano Science and Engineering
27	Linear Algebra
28	Logical and Critical Thinking
29	Macro Economics for Managers
30	Mathematical Physics
31	Mathematical Structures for Engineers
32	Modernism: Literary Representation
33	Nano Technology
34	Natural Nanoworld: Design, Fundamentals and Mechanics
35	Non Linear Dynamics and Chaos
36	Numeric Linear Algebra
37	Numerical Analysis
38	Numerical Methods
39	Operation Research
40	Optimization
41	Organic Electronics and Opto Electronics: Material and Applications
42	Organisational Behaviour
43	Pervasive Computing
44	Physics of Material
45	Physics of The Universe

46	Pragmatics in Social Media
47	Solid State Physics
48	Superconductivity: Basics and Applications
49	System Dynamics and Control
50	System Level Specifications and Design
51	The Self: Aspects and Implications