

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
COURSE STRUCTURE & SYLLABUS (R25 Regulations)
Applicable from AY 2025-26 Batch

B.Tech. CSE (IoT and Cyber Security Including Blockchain Technology)

I Year I Semester (25 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1	BSC	Matrices and Calculus	3	1	0	4
2	BSC	Advanced Engineering Physics	3	0	0	3
3	MEC	Engineering Graphics and Computer Aided Drafting	2	0	2	3
4		Basic Electrical Engineering	3	0	0	3
5	CSC	Programming for Problem Solving	3	0	0	3
6	BSC	Advanced Engineering Physics Lab	0	0	2	1
7	CSC	Programming for Problem Solving Lab	0	0	2	1
8		Python Programming Lab	0	0	2	1
9	HSC	Basic Electrical Engineering Lab	0	0	2	1
10		Induction Program				
		Total Credits	14	1	10	20

I Year II Semester (25 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1	BSC	Ordinary Differential Equations and Vector Calculus	3	0	0	3
2	BSC	Engineering Chemistry	3	0	0	3
3	HSC	English for Skill Enhancement	3	0	0	3
4		Electronic Devices and Circuits	3	0	0	3
5		Data Structures	3	0	0	3
6	BSC	Engineering Chemistry Lab	0	0	2	1
7		Data Structures Lab	0	0	2	1
8	HSC	English Language and Communication Skills Lab	0	0	2	1
9	MEC	Engineering Workshop	0	0	2	1
10		IT Workshop	0	0	2	1
		Total Credits	15	0	10	20

II YEAR I SEMESTER (25 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1	BSC	Mathematical and Statistical Foundation	3	0	0	3
2		Introduction to IoT	3	0	0	3
3		Software Engineering	3	0	0	3
4		Computer Organization	3	0	0	3
5		Java Programming	3	0	0	3
6		Computational Mathematics Laboratory	0	0	2	1
7		Introduction to IoT Laboratory	0	0	2	1
8		Software Engineering Laboratory	0	0	2	1
9		Java Programming Laboratory	0	0	2	1
10	SDC	Data Visualization-R Programming/Power BI/ Tableau/Google Chart	0	0	2	1
		Total Credits	15	0	10	20

II YEAR II SEMESTER (26 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1		Discrete Mathematics	3	0	0	3
2		Cyber Security Essentials	3	0	0	3
3		Computer Networks	3	0	0	3
4		Operating Systems	3	0	0	3
5		Sensors and Devices	3	0	0	3
6		Innovation and Entrepreneurship	2	0	0	2
7		Computer Networks Laboratory	0	0	2	1
8		Operating Systems Laboratory	0	0	2	1
9		Sensors and Devices Laboratory	0	0	2	1
10	SDC	Node JS/React JS/Django	0	0	2	1
11	MC	Indian Knowledge System	1	0	0	1
		Total Credits	18	0	08	22

III YEAR I SEMESTER (27 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1		Analysis and Design of Algorithms	3	0	0	3
2		Database Management Systems	3	0	0	3
3		Distributed Systems	3	0	0	3
4		Professional Elective-I	3	0	0	3
5		Open Elective-I	2	0	0	2
6		Analysis and Design of Algorithms Laboratory	0	0	2	1
7		Database Management Systems Laboratory	0	0	2	1
8		DevOps Laboratory	0	0	2	1
9		Field Based Project/ Internship	0	0	4	2
10	SDC	UI Design-Flutter	0	0	2	1
11	MC*	Gender Sensitization*/ Human Values and Professional Ethics*	1	0	0	1
		Total Credits	15	0	12	21

***Note: For the courses Gender Sensitization and Human Values and Professional Ethics** - one hour of instruction will be conducted on alternate weeks. For example, if a one-hour class for Gender Sensitization is conducted this week, then a one-hour class for Human Values and Professional Ethics will be conducted in the following week

III YEAR II SEMESTER (25 Hours)

S. No	Course Code	Course Title	L	T	P	Credits
1		Blockchain Technology	3	0	0	3
2		Machine Learning	3	0	0	3
3		Business Economics and Financial Analysis	3	0	0	3
4		Professional Elective-II	3	0	0	3
5		Open Elective – II	2	0	0	2
6		Blockchain Technology Laboratory	0	0	2	1
7		Machine Learning Laboratory	0	0	2	1
8		Linux Programming Laboratory	0	0	2	1
9	HSC	English for Employability Skills Laboratory	0	0	2	1
10	SDC	Big data-Spark	0	0	2	1

11	MC	Environmental Science	1	0	0	1
		Total Credits	15	0	10	20

IV YEAR I SEMESTER (25 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1		IoT Security	3	0	0	3
2		Cyber Crime Investigation & Digital Forensics	3	0	0	3
3		Fundamentals of Management	3	0	0	3
4		Professional Elective-III	3	0	0	3
5		Professional Elective – IV	3	0	0	3
6		Open Elective – III	2	0	0	2
7		IoT Security Laboratory	0	0	2	1
8		Cyber Crime Investigation & Digital Forensics Laboratory	0	0	2	1
9		Industry Oriented Mini Project/ Summer Internship	0	0	4	2
		Total Credits	17	0	08	21

IV YEAR II SEMESTER (34 Hours)

S. No.	Course Code	Course Title	L	T	P	Credits
1		Professional Elective – V	3	0	0	3
2		Professional Elective – VI	3	0	0	3
3		Project Work	0	0	28	14
		Total Credits	6	0	28	20

Professional Electives

	Professional Elective - I	Professional Elective - II	Professional Elective-III	Professional Elective-IV	Professional Elective-V	Professional Elective-VI
1	Robotic Process Automation	Distributed Ledger Technology	Digital Water Marking and Steganography	Deep Learning	Quantum Computing	Human Computer Interaction
2	Optimization Techniques`	Distributed Systems	Cloud Computing	Parallel and Distributed Computing	High Performance Computing	Data Privacy
3	Adhoc and Sensor Networks	Wireless Security	Network Management Systems and Operations	5G Technology	Social Media Security	Edge and Fog Computing
4	Mobile Application Security	Cyber Laws	Vulnerability Assessment & Penetration Testing	Malware Analysis	Security Incident and Response Management	Green Computing
5	IoT System Architecture	Embedded Systems	Web of Things	Artificial Intelligence of Things	IoT Cloud Processing and Analytics	Augmented Reality and Virtual Reality

OPEN ELECTIVES

Open Elective-I:

1	Introduction to IoT
2	Mathematics for Machine Learning

Open Elective-II:

1	Sensors and Devices
2	Cyber Security Essentials

Open Elective-III:

1	Block Chain Technology
2	Digital Forensics