



# **B.Tech.**

**(Electronics and Communication Engineering)**

**With Specialization in AI & IoT**

**Syllabus**

**2026-2030**



**Department of Electronics & Communication Engineering**

School of Engineering & Technology, Sushant University

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## B.TECH. ECE (AI & IOT)

### Syllabus (1<sup>st</sup> Year/1<sup>st</sup> & 2<sup>nd</sup> Semester)

Year	Semester-1						
First Year	Course Code	Course Title	L	T	P	H	Credit
	23BTC-0MA11T	Computational Mathematics	3	1	0	4	4
	EC101	Introduction to Programming (C)	2	0	4	6	4
	23BTC-0PY11C/23BTC-0EE11C	Physics/ Basics of Electronics and Electrical Engineering	3	1	2	6	5
	23BTC-0ED11C/23BTC-0WS11C	Engineering Graphics & Design #/ WORKSHOP	0	0	4	4	2
	EVS2111	Environmental Studies (sustainable goals)	2	0	0	2	2
	SE151	Universal Human Values	2	0	0	2	2
	23BTC-0DT11L	Design Thinking	1	0	2	2	2
	<b>Total Credits</b>						

Year	Semester-2						
First Year	Course Code	Course Title	L	T	P	H	Credit
	15BTC-0DM21T	Discrete mathematics	3	1	0	4	4
	21ENG11	Communication in English	1	0	2	3	2
	EC201	Programming for Problem Solving (Java)	2	0	4	6	4
	23BTC-0PY11C/23BTC-0EE11C	Basics of Electronics and Electrical Engineering/ Physics	3	1	2	6	5
	23BTC-0WS11C/23BTC-0ED11C	Engineering Graphics & Design #/ WORKSHOP	0	0	2	2	1
	SE156	Sports and Yoga or NSS/NCC	0	0	2	2	1
	23BTC-0SL12C	Service Learning -1	0	0	2	2	2
	<b>Total Credits</b>						

## B.TECH. ECE (AI & IOT)

### Syllabus (2<sup>nd</sup> Year/3<sup>rd</sup> & 4<sup>th</sup> Semester)

Year	Semester-3						
Second Year	Course Code	Course Title	L	T	P	H	Credit
	21BTC-1EE21C	Entrepreneurship Essentials	2	0	0	0	2
	23BCS-0DS21C	Data Structures	3	0	2	4	3
	TDCC	TDCC-I	2	0	0	0	2
	23BTC-0SL21C	Service Learning -2	0	0	4	4	2
	EC301	Electronic Devices & Circuits	2	0	2	4	3
	20BTC-1ME31T	Managerial Economics	2	0	0	2	2
	CS301	Python Programming	2	0	4	6	4
	<b>Total Credits</b>						

Year	Semester-4						
Second Year	Course Code	Course Title	L	T	P	H	Credit
	EC401	Internet of Things	3	0	2	5	4
	EC402	Signals and Systems	3	0	2	5	4
	15BCS-0TC31T	Probability and statistics	3	1	0	4	4
	EC403	Digital Electronics	3	0	2	5	4
	TDCC	TDCC-II	1	0	2	3	2
	19BTC-1CI22T	Constitution of India	1	0	0	1	1
		Specialization Course	2	0	2	4	3
	<b>Total Credits</b>						



## B. TECH. ECE (AI & IOT)

### Syllabus (3<sup>rd</sup> Year/5<sup>th</sup> & 6<sup>th</sup> Semester)

Year	Semester-5						
Third Year	Course Code	Course Title	L	T	P	H	Credit
	EC501	Communication Systems	3	0	2	5	4
	EC502	Microprocessors and microcontrollers	3	0	2	5	4
	EC503	Digital Signal Processing	2	0	2	4	3
	20BCS-0IS31P	Internship Seminar-1	0	0	4	4	2
	15BCS-0CO21T	Computer Architecture and Organization(revise)	3	0	0	3	3
	EC504	Digital System Design	3	0	2	5	4
		Specialization Course-II	2	0	2	4	3
	<b>Total Credits</b>						

Year	Semester-6						
Third Year	Course Code	Course Title	L	T	P	H	Credit
	EC601	Robotic Process Automation	3	0	2	2	4
	23BCS-0CN32C	Computer Networks	3	0	2	5	4
		Specialization Course-III	2	0	2	4	3
	EC602	Industrial IoT	3	0	2	5	4
	23BTC-0PE32C	Personal Effectiveness	1	0	2	3	2
	23BCS-0PR32J	Minor Project	0	0	6	6	3
	TDCC	TDCC-III	2	0	0	2	2
	<b>Total Credits</b>						



## B. TECH. ECE (AI & IOT)

### Syllabus (4<sup>th</sup> Year/7<sup>th</sup> & 8<sup>th</sup> Semester)

Year	Semester-7						
Final Year	Course Code	Course Title	L	T	P	H	Credit
	TDCC	TDCC-IV	2	0	0	2	2
		Specialization Course-IV	2	0	2	4	3
	20BCS-0IS41P	Internship Seminar-II	0	0	4	4	2
	23BCS-0PR41J	Major Project-I	0	0	22	22	11
	15BCS-0MP42J	Term Paper (Research Paper)	0	1	0	1	1
	<b>Total Credits</b>						

Year	Semester-8						
Final Year	Course Code	Course Title	L	T	P	H	Credit
	23BCS-0II42J	Industry / Research Lab Internship					17
	<b>Internship Option</b>		<b>Alternate Option</b>				
	<ul style="list-style-type: none"> <li>• Within India or Abroad</li> <li>• To enhance hands-on skills (As per NEP 2020)</li> </ul>						
	MOOC1/Swayam	MOOC1/Swayam	3	0	0	3	3
	MOOC2/Swayam	MOOC2/Swayam	3	0	0	3	3
	23BCS-0MP42J	Major Project-II	0	0	22	22	11
<b>Total Credits</b>						<b>17</b>	

Total no. of Credits – **161**

L = Lecture

T = Tutorial

P = Practical

H = Hours

C = Credits

Electives List - B.Tech. ECE (AI & IoT)						
S.N O	Year	Semester	Elective	Specialization	Subject Name	Credits
1	II	III	Specialization Elective-I	AI & IoT	Exploratory Data Analysis	3
				AI & IoT	Embedded C Programming	3
2	II	IV	Specialization Elective-II	AI & IoT	Machine Learning 1	3
				AI & IoT	Sensors and Actuators	3
3	III	V	Specialization Elective-III	AI & IoT	Machine Learning II	3
				AI & IoT	IoT Security & Privacy	3
4	III	VI	Specialization Elective-IV	AI & IoT	Neural Network and Deep Learning	3
				AI & IoT	Smart Healthcare Systems	3
5	III	VI	Specialization Elective-V	AI & IoT	Exploratory Data Analysis	3
				AI & IoT	Embedded C Programming	3
6	IV	VII	Specialization Elective-VI	AI & IoT	Machine Learning 1	3
				AI & IoT	Sensors and Actuators	3
7	IV	VII	Specialization Elective-VII	AI & IoT	Machine Learning II	3
				AI & IoT	IoT Security & Privacy	3
8	IV	VII	Specialization Elective-VIII	AI & IoT	Neural Network and Deep Learning	3
				AI & IoT	Smart Healthcare Systems	3