# SR UNIVERSITY

# B. TECH: ELECTRONICS AND COMMUNICATION ENGINEERING (IoT) COURSE STRUCTURE:

(Applicable from the batch admitted during 2020-21 academic year and onwards)

# L: Theory, T: Tutorial, P/D: Practical/Drawing, J: Course Project, C: Credits, CIE: Continuous Internal Evaluation, SEE: Semester End Examination

S.		Commo	Hours/Week						
No.		Course	L	Т	P/D	J	С		
1	HS	English I	2	-	-	-	2		
2	BS	Mathematics I	3	1	-	-	4		
3	BS	Engineering Physics	3	-	-	-	3		
4	ES	Basics of Electrical and Electronics Engineering	3	-		-	3		
5	ES	Introduction to Programming	2	-	2	-	3		
6	ES	Product Design Studio	1	-	4	-	3		
Total						18			

I Year I Semester

#### I Year II Semester

S.	Course	e Course -		Hours/Week						
No.	Code	Course	L	Т	P/D	J	С			
1	BS	Mathematics II	3	1	-	-	4			
2	ES	IT Workshop I	-	-	4	-	2			
3	ES	Problem Solving with Programming	2	-	2	-	3			
4	ES	Smart System Design	3	-	-	-	3			
5	HS	English Language Lab	-	-	2	-	1			
6	ES	Graphics & Design Modelling	-	-	6	-	3			
7	BS	Applied Physics	3	-	2	-	4			
Total							20			

S. No.	Course	Course		Hours/Week					
5. INU.	Code	Course	L	Т	P/D	J	С		
1	HS	Business Communication	2	-	-	-	2		
2	BS	Random process and statistics	3	-	-	-	3		
3	PC	Analog Circuit Analysis	4	-	-	-	4		
4	PC	Signals and Systems	3	-	-	-	3		
5	PC	Network Analysis	3	-	-	-	3		
6	PC	Analog Circuit Analysis Lab	-	-	2	-	1		
7	PC	Basic Signals and Circuits Simulation Lab	-	-	2	-	1		
8	PC	PCB Layout Lab			2	-	1		
9	BS	Environmental Studies Lab	-	-	-	-	1		
Total						19			

#### II Year I Semester

#### II Year II Semester

S. No.	Course	Course		Ho	urs/W	eek	
<b>5.</b> INU.	Code	Course	L	Т	P/D	J	С
1	BS	Advanced Engineering Mathematics	3	-	-	-	3
2	ES	Data Structures	3	-	-	-	3
3	OE	Open Elective I	3	-	-	-	3
4	PC	Introduction to IoT	-	-	-	3	3
5	PC	Digital Electronics	3	-	-	-	3
6	PC	Electromagnetic Waves and Transmission Lines	3	-	-	-	3
7	ES	Data Structures Lab	-	-	2	-	1
8	PC	Linear and Digital Circuits Lab	-	I	2	I	1
9	AC	Gender Sensitization	-	-	-	-	-
Total							20

C No	Course	Commo	Hours/Week						
S. No.	Code	Course	L	Т	P/D	J	С		
1	HS	General Aptitude	-	-	2	-	1		
2	OE	Open Elective II	3	-	-	-	3		
3	PE	Professional Elective I	3	-	-	-	3		
4	PC	Analog and Digital Communications	4	-	-	-	4		
5	PC	Programming for IoT	-	-	-	4	4		
6	PC	Microcontrollers for embedded systems	3	-	-	-	3		
7	PC	Analog and Digital Communication Lab	-	-	2	-	1		
8	PC	Microcontrollers for embedded systems Lab	-	-	2	-	1		
Total							20		

### **III Year I Semester**

## **III Year II Semester**

S. Course	Course	Course	Hours/Week						
No.	Code	Course	L	Т	P/D	J	С		
1	HS	Employability Skills	-	-	2	-	1		
2	HS	Finance for Engineers	3	-	-	-	3		
3	HS	Technical Writing	2	-	-	-	2		
4	OE	Open Elective III	3	-	-	-	3		
5	HS	Professional Elective II	3	-	-	-	3		
6	PC	Distributed IoT	3	-	-	-	3		
7	PC	Distributed IoT Lab	-	-	2	-	1		
8	PROJ	Mini Project/Internship/Certification	-	-	-	-	2		
Total							18		

<b>S.</b>	Course	Course	Hours/Week							
No.	Code		L	Т	P/D	J	С			
1	PE	Professional Elective III	3	-	-	-	3			
2	PE	Professional Elective IV	3	-	-	-	3			
3	PC	VLSI Design and Technology	3		-	-	3			
4	PC	Data Communications and Networks	3	-	-	-	3			
5	PC	Embedded Linux	-	-	-	3	3			
6	PC	VLSI Design and Technology Lab	-	-	2	-	1			
7	PC	Computer networks Lab	-	-	2	-	1			
8	PROJ	Capstone Phase I	-	-	-	-	3			
Total							20			

### **IV Year I Semester**

# **IV Year II Semester**

C.N.	Course	Course Code Course	Hours/Week						
S. No.	Code		L	Т	P/D	J	C		
1	OE	Open Elective IV	3	-	-	-	3		
2	PE	Professional Elective V	3	-	-	-	3		
3	PE	Professional Elective VI	3	I	-	I	3		
4	PROJ	Capstone Phase II/Practice School	-	-	-	-	8		
Total							17		

S.No.	Title of the Elective
1.	Control Systems
2.	Artificial Neural Networks
3.	Computer organisation
4.	Antenna and Wave Propagation
5.	Cloud Computing
6.	Edge Computing
7.	Fog Computing
8.	IoT wireless & cloud computing emerging technologies
9.	Security in IoT
10.	Cloud security
11.	Network Security
12.	Applications of IoT and Multimedia Technology
13.	CAO
14.	Fuzzy Logic for Machine learning
15.	Digital Design through HDL
16.	RISC Processor Design Using HDL
17.	Advanced Wireless Technologies
18.	Applied Machine learning in Python
19.	Digital Signal Processors and Architectures
20.	Electronic Measurement and Instrumentation
21.	Wireless Sensor Networks
22.	Information Theory and Coding
23.	Graphics and Mobile Gaming
24.	Biomedical Instrumentation

# LIST OF PROFESSIONAL ELECTIVES