

New Revised
Teaching Scheme
of
Bachelor of Technology
in
Electronics & Communication Engineering

(Effective from Academic Year: 2022-23)
(Approved by 55th Senate dated 20-09-2022)



Department of Electronics Engineering
Sardar Vallabhbhai National Institute of Technology, Surat

Department of Electronics Engineering
B. Tech. Electronics and Communication Engineering
 (Effective from 2022-23)
Proposed Scheme
SEMESTER – I

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Mathematics-I	MA 101 S1	04	3	1	0
2.	Semiconductor Physics and Devices	EC 101	03	3	0	0
3.	Fundamentals of Computer & Programming	CS 109 S1	04	3	0	2
4.	Basic Electrical Engineering	EE 101 S1	04	3	0	2
5.	Energy and Environmental Engineering	CEME 106	04	3	0	2
6.	Holistic Empowerment and Human Values*	HU 108	03	3	0	0
Total			22	18	1	6

* Audit Course (attendance would be compulsory as per institute norms)

SEMESTER – II

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Mathematics-II	MA 114 S2	04	3	1	0
2.	English & Professional Communication	HU 110 S2	03	3	0	0
3.	Electronic Circuits	EC 102	04	3	0	2
4.	Digital Logic Design	EC 104	04	3	0	2
5.	Python Programming	EC 106	04	3	0	2
6.	Network Analysis and Synthesis	EE 102	03	3	0	0
Total			22	18	1	6

SEMESTER – III

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Mathematics-III	MA 217	04	3	1	0
2.	Analog Circuits	EC 201	04	3	0	2
3.	Signals and Systems	EC 203	04	3	1	0
4.	Data Structures and Algorithms	EC 205	04	3	0	2
5.	Digital Integrated Circuits	EC 207	04	3	0	2
6.	Principles of Communication Systems	EC 209	04	3	0	2
Total			24	18	2	8

SEMESTER – IV

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Electromagnetic Waves	EC 202	04	3	0	2
2.	Statistical Signal Analysis	EC 204	04	3	1	0
3.	Microprocessor and Microcontrollers	EC 206	04	3	0	2
4.	Linear IC Applications	EC 208	04	3	0	2
5.	Computer Architecture and Organization	EC 210	04	3	0	2
6.	Control Systems	EE 214	03	3	0	0
Total			23	18	1	8

SEMESTER – V

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Professional Ethics, Economics, and Business Management	HU 301	03	3	0	0
2.	Digital Signal Processing	EC 301	04	3	0	2
3.	Digital Communication	EC 305	04	3	0	2
4.	Data Communication Networks	EC 307	04	3	0	2
5.	Department Elective - I	EC 3XX	04	3	0	2
6.	Institute Elective - 1	EC 3XX	03	3	0	0
Total			22	18	0	8

List of Subjects for Department Elective I (3 - 0 - 2)

Sr. No.	Subject	Code
1.	Electronic Instrumentation	EC 321
2.	VLSI Technology	EC 323
3.	Digital Image Processing	EC 325
4.	Antenna Theory	EC 327
5.	Object Oriented Programming (To be offered by DoCSE)	CS 321

List of Subjects for Institute Elective 1 (3 - 0 - 0)

Sr. No.	Subject	Code
1.	Sensors and Transducers	EC 361
2.	Neural Networks	EC 363
3.	Multimedia Communication	EC 365
4.	Solar Photovoltaic Technology	EC 367

SEMESTER – VI

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	VLSI Design	EC 302	04	3	0	2
2.	Wireless and Mobile Communication	EC 304	04	3	0	2
3.	Machine Learning	EC 306	04	3	0	2
4.	Seminar	EC 308	01	0	0	2
5.	Department Elective - II	EC 3XX	04	3	0	2
6.	Department Elective - III	EC 3XX	03	3	0	0
7.	Institute Elective - 2	EC 3XX	03	3	0	0
Total			23	18	0	10

List of Subjects for Department Elective II (3 - 0 - 2)

Sr. No.	Subject	Code
1.	Speech Processing and Human-Machine Communication	EC 322
2.	Embedded Systems	EC 324
3.	Optical Fiber Communication	EC 326
4.	Internet of Things	EC 328

List of Subjects for Department Elective III (3 - 0 - 0)

Sr. No.	Subject	Code
1.	Global Navigation Satellite System	EC 332
2.	Adaptive Signal Processing	EC 334
3.	Advanced Electronic Circuits	EC 336
4.	Innovation, Incubation and Entrepreneurship (To be offered by DoAMH)	HU 322

List of Subjects for Institute Elective 2 (3 - 0 - 0)

Sr. No.	Subject	Code
1.	High-Performance Computing	EC 362
2.	Computer Vision	EC 364
3.	MEMS	EC 366

SEMESTER – VII/VIII

Sr. No.	Subject	Code	Credit	Teaching Scheme		
				L	T	P
1.	Microwave Engineering	EC 401	04	3	0	2
2.	Information Theory and Coding	EC 403	03	3	0	0
3.	Project	EC 405	03	0	0	6
4.	Department Elective - IV	EC 4XX	04	3	0	2
5.	Department Elective - V	EC 4XX	03	3	0	0
6.	Department Elective - VI	EC 4XX	03	3	0	0
Total			20	15	0	10

List of Subjects for Department Elective IV (3 - 0 - 2)

Sr. No.	Subject	Code
1.	Deep Learning	EC 421
2.	MIMO Communication systems	EC 423
3.	CMOS Analog VLSI Design	EC 425
4.	Intelligent Systems and Robotics	EC 427
5.	Real-Time Systems	EC 429

List of Subjects for Department Elective V (3 - 0 - 0)

Sr. No.	Subject	Code
1.	Optical Wireless Communication	EC 431
2.	Estimation and Detection Theory	EC 433
3.	Processor Architecture	EC 435
4.	EM Interference and Compatibility	EC 437
5.	VLSI Systems	EC 439
6.	Quantum Computing	EC 441

List of Subjects for Department Elective VI (3 - 0 - 0)

Sr. No.	Subject	Code
1.	Fundamentals of Nanoelectronics	EC 451
2.	Testing and Verification of VLSI Circuits	EC 453
3.	Ad-Hoc Networks	EC 455
4.	Cognitive Radio	EC 457
5.	Biomedical Instrumentation	EC 459
6.	SWAYAM	SW 01

SEMESTER – VII/VIII

Sr. No.	Subject	Code	Scheme	Credit	Examination Scheme				
					Theory Marks	Tutorial Marks	Term work Marks	Practical Marks	Total Marks
1.	Internship training in Industry / Research Organization/ Academic Institute	EC 402	0-0-20	10	-	-	120	180	300
		Total	0-0-20=20	10	-	-	120	180	300

Total Credits

Course	Semester	Credit
B. Tech. – I	Semester – I	22
	Semester – II	22
B. Tech. – II	Semester – III	24
	Semester – IV	23
B. Tech. – III	Semester – V	22
	Semester – VI	23
B. Tech. – IV	Semester – VII	20
	Semester – VIII	10
Total UG Credit		166

Credit Range: 166-170