ACADEMIC REGULATIONS
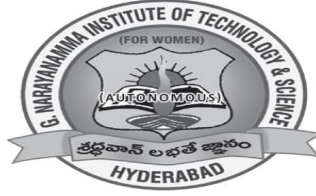
COURSE STRUCTURE

AND

DETAILED SYLLABUS

ELECTRONICS & COMMUNICATION ENGINEERING

FOR

B.TECH FOUR YEAR DEGREE COURSE

(Applicable for batches admitted form 2022-23)

G.Narayanamm Institute of Technology & Science (for Women)
(Autonomous)
Shaikpet, Hyderabd-500104

B.Tech. 4 Year (8 Semesters) Regular Programme in
ELECTRONICS & COMMUNICATION ENGINEERING
DEPARTMENT OF ECE
COURSE STRUCTURE
(Applicable for the Batches admitted from the Academic Year 2022-23)

II YEAR   **I EMESTER**

S.No.	Group	Subject Code	Subject	L	T	P	Credits
1)	BS	123AX	Special Functions and Complex Variable Theory	3	0	0	3
2)	ES	123AV	Python Programming	2	0	0	2
3)	PC	123AR	Electronic Devices and Circuits	3	1	0	4
4)	PC	123AW	Signals and Systems	3	1	0	4
5)	PC	123AT	Network Theory and Analysis	3	0	0	3
6)	ES	12311	Basic Simulation Lab	0	0	3	1.5
7)	ES	12317	Python Programming Lab	0	0	2	1
8)	PC	12315	Electronic Devices and Circuits Lab	0	0	3	1.5
9)	MC	12312	Constitution of India	2	0	0	-
			TOTAL	16	2	8	20

II YEAR   **II SEMESTER**

S.No.	Group	Subject Code	Subject	L	T	P	Credits
1)	BS	124BN	Probability Theory and Stochastic Processes	3	0	0	3
2)	PC	124BJ	Electromagnetic Theory and Transmission Lines	3	0	0	3
3)	PC	124AZ	Analog Circuits	3	0	0	3
4)	PC	124BE	Digital Electronics and Logic Design	3	0	0	3
5)	PC	124BC	Control Systems Engineering	3	0	0	3
6)	PC	12418	Analog Circuits Lab	0	0	3	1.5
7)	PC	12419	Digital Electronics and Logic Design Lab	0	0	3	1.5
8)	PW	12424	Mini Project -1 (Real Time Project)	0	0	4	2
9)	MC	12422	Human Values and Professional Ethics	2	0	0	-
			TOTAL	17	0	10	20

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III YEAR   I SEMESTER

S. No.	Group	Subject Code	Subject	L	T	P	Credits
1)	PC		Analog and Digital Communications	3	1	0	4
2)	PC		Antennas and Wave Propagation	3	0	0	3
3)	PC		Microprocessors and Microcontrollers	3	1	0	4
4)	PE1		Professional Elective - 1 (Offline/Online)	3	0	0	3
			Computer Architecture and Organization				
			Electronic Measuring Instruments and Sensors				
			Bio-Medical Electronics				
			Data Science				
5)	PE2		Professional Elective – 2 (Offline/Online)	3	0	0	3
			Programming with Verilog HDL				
			Object Oriented Programming Through Java				
			Internet of Things				
			Artificial Intelligence				
6)	PC		Analog and Digital Communications Lab	0	0	2	1
7)	PC		Microprocessors and Microcontrollers Lab	0	0	2	1
8)	HS		Advanced Communication Skills Lab	0	0	2	1
			TOTAL	15	2	6	20

III YEAR   II SEMESTER

S.No.	Group	Subject Code	Subject	L	T	P	Credits
1)	HS		Managerial Economics and Financial Analysis	3	0	0	3
2)	PC		Digital Signal Processing	3	0	0	3
3)	PC		VLSI Design	3	1	0	4
4)	PE3		Professional Elective - 3 (Offline/Online)	3	0	0	3
			Data Communications and Computer Networks				
			Information Theory and Coding				
			Design for Testability				
			Green Communications				
5)	OE1		Open Elective - 1 (Offline/Online)	3	0	0	3
6)	PC		Digital Signal Processing Lab	0	0	2	1
7)	PC		VLSI Design Lab	0	0	2	1
8)	PW		Mini Project – 2 (Industry Oriented Mini Project/ Industry Internship : during Summer between 2nd and 3rd years)	0	0	4	2
			TOTAL	15	1	8	20

<p style="text-align:center">B.Tech. 4 Year (8 Semesters) Regular Programme in
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(Applicable for the Batches admitted from the Academic Year 2022-23)</p>

IV YEAR   **I SEMESTER**

S.No.	Group	Subject Code	Subject	L	T	P	Credits
1)	HS		Fundamentals of Management	3	0	0	3
2)	PC		Wireless Communications and Networks	3	0	0	3
3)	PE4		Professional Elective - 4	3	0	0	3
			Microwave Engineering and Optical Communications				
			Embedded System Design				
			Machine Learning				
4)	PE5		Professional Elective - 5(Offline/Online)	3	0	0	3
			Digital Image and Video Processing				
			Voice over Internet Protocol				
			Wireless Sensor Networks				
			Low Power VLSI Design				
5)	OE2		Open Elective - 2 (Offline/Online)	3	0	0	3
6)	PC		Wireless Communications and Networks Lab	0	0	2	1
7)	PC		Lab (Linked to PE4)	0	0	2	1
			Microwave and Optical Communications Lab				
			Embedded System Design Lab				
			Machine Learning Lab				
8)	PW1		PROJECT WORK (Phase – I)	0	0	6	3
			TOTAL	15	0	10	20

IV YEAR   **II SEMESTER**

S.No.	Group	Subject Code	Subject	L	T	P	Credits
1)	HS		Entrepreneurship and Project Management (Offline/Online)	2	0	0	2
2)	PE6		Professional Elective - 6 (Offline/Online)	3	0	0	3
			Radar Systems				
			5G Communication Technologies				
			Static Timing Analysis				
			Satellite Communications and Navigation Systems				
3)	OE3		Open Elective - 3 (Offline/Online)	3	0	0	3
4)	PW		Technical Seminar (Presentation with Report before 1st Mid Exams)	1	0	2	2
5)	PW2		PROJECT WORK (Phase – II)	0	0	20	10
			TOTAL	9	0	22	20

List of Open Elective Offered By Various Departments For B.Tech. Programme
(Applicable for the Batches admitted from the Academic year 2022-23 onwards)

S. No.	Name of the Department Offering Open Electives	Open Elective-1 (B. Tech. III Year II Semester)	Open Elective-2 (B. Tech. IV Year I Semester)	Open Elective-3 (B.Tech. IV Year II Semester)
1	ECE	• Biomedical Electronics and Applications • Principles of Communication Technologies • Verilog HDL	• Sensors and Actuators • Elements of Satellite Communications	• Wearable Devices and its Applications • Systems Engineering