

GURU NANAK DEV ENGINEERING COLLEGE, LUDHIANA

Department of Electronics and Communication Engineering

Syllabus Scheme for B. Tech.–Electronics and Communication Engineering (Batch 2024 onwards)

Semester-5 th											
S. No.	Course Category	Course Code	Course Title	Subject Type	Hours per week			Marks Distribution		Total Marks	Credits
					L	T	P	CA	ESE		
1	Professional Core Course	CEC109	Digital Signal Processing	Theory	3	0	2	90	60	150	4
2	Professional Core Course	CEC110	Microprocessor and Microcontroller	Theory	3	1	2	90	60	150	5
3	Professional Core Course	CEC111	Electromagnetics and wave propagation	Theory	3	1	0	40	60	100	4
4	Professional Core Course	CEC112	Analog and Digital Communication System	Theory	3	1	2	90	60	150	5
5	Professional Elective course	EEC1XX	Elective-I	Theory	3	1	0	40	60	100	4
6	Engineering Science course	ESEC102	Design Thinking	Practical	0	0	2	50	-	50	1
7	Engineering Science Course	ESC106	Entrepreneurship and Startups	Theory	3	0	0	40	60	100	3
8	Project work, Seminar and Internship	TREC102	Training-II	Practical	-	-	-	60	40	100	1
9	Mandatory Course (Non-credit)	MC103	Disaster Management and Preparedness	Theory	2	0	0	50	0	50	S/US
10	Mentoring and Professional Development	MPD103	Mentoring and Professional Development	Practical	0	0	1	-	-	-	-
TOTAL					20	4	8	530	420	950	27

Contact Hours 32



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Semester-6 th											
S. No.	Course Category	Course Code	Course Title	Subject Type	Hours per week			Marks Distribution		Total Marks	Credits
					L	T	P	CA	ESE		
1	Professional Core Course	CEC113	Mobile Communication and Networks	Theory	3	1	0	40	60	100	4
2	Professional Core Course	CEC114	Antenna theory and Microwave Communication	Theory	3	1	2	90	60	150	5
3	Professional Core Course	CEC115	Artificial Intelligence and Machine Learning	Theory	3	0	2	90	60	150	4
4	Project work, Seminar and Internship	FSEC1XX	Elective	Theory	2	0	0	40	60	100	2
5	Professional Elective Course	EEC1XX	Elective-II	Theory	3	0	2	90	60	150	4
6	Professional Elective Course	EEC1XX	Elective-III	Theory	3	1	0	40	60	100	4
7	Project work, Seminar and Internship	PREC101	Minor Project	Practical	0	0	2	60	40	100	1
8	Mandatory Course (Non-credit)	MC102	Essence of Indian Knowledge Tradition	Theory	2	0	0	50	0	50	S/US
9	Mentoring and Professional Development	MPD103	Mentoring and Professional Development	Practical	0	0	1	100	-	100	1
TOTAL					19	3	9	600	400	1000	25

Contact Hours 31



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Professional Elective Courses

List of Professional Elective Courses for TRACK-I (Communication, Signal Processing and Software Engineering)

Professional Elective Course	Course Code	Course Title
Elective-I	EEC101	Wireless and Ad Hoc Networks
	EEC102	Image Processing and Computer Vision
	EEC103	Software Design and Development
Elective-II	EEC106	Optical Fiber Communication
	EEC107	Cyber Security
	EEC108	Edge Computing Software Development
Elective-III	EEC111	Satellite and Radar Communication
	EEC112	Information Theory and Coding
	EEC113	Quantum Computing

List of Professional Elective Courses for TRACK-II (Embedded System and VLSI design)

Professional Elective Course	Course Code	Course Title
Elective-I	EEC104	Embedded System design using ARM
	EEC105	VLSI Design Concepts
Elective-II	EEC109	Arduino and MSP430 based Embedded System
	EEC110	Low Power VLSI design
Elective-III	EEC114	PLC and Industrial Automation
	EEC115	VLSI Physical Design

Project work, Seminar and Internship

List of Project work, Seminar and Internship

Elective Course	Course Code	Course Title
Elective	FSEC101	Career Skills and Aptitude Development
	FSEC102	Skill Development for GATE, PSU and Higher Education
	FSEC103	Skill Development for Research, Innovation and Entrepreneurship