

DAYANANDA SAGAR UNIVERSITY
DEVARAKAGGALAHALLI, HAROHALLI, KANAKAPURA ROAD
RAMANAGAR DISTRICT- 562112

SCHOOL OF ENGINEERING



SCHEME & SYLLABUS
FOR
BACHELOR OF TECHNOLOGY (B.Tech) – 2023

ELECTRONICS AND COMMUNICATION ENGINEERING

(With effect from 2023-27)

(III, IV, V, VI, VII & VIII SEMESTERS)





Dayananda Sagar University

School of Engineering

Devarakagalahalli, Harohalli, Kanakapura Road, Ramanagar District- 562112

DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHEME AND SYLLABUS

B.Tech. PROGRAMME- 2023 BATCH

Definitions / Descriptions

Definition of Credit:	
01 Credit	1 Hour Lecture (L) Per Week
01 Credit	1 Hour Tutorial (T) Per Week
0.5 Credit	1 Hour Practical (P) Per Week
0.5 Credit	1 Hour Project (I) Per Week
Course code and Definition:	
BSC	Basic Science Courses
ESC	Engineering Science Courses
HSMC	Humanities and Social Sciences including Management Courses
IPCC	Integrated Professional Core Course
PCC	Professional Core Courses
PEC	Professional Elective Courses
OEC	Open Elective Courses
SEC	Skill Enhancement Courses
INT	Internship
PROJ	Project Work





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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Implementation of National Education Policy (NEP) 2020 for the B.Tech students of Batch 2023-27

The implementation of Curriculum follows NEP 2020 and addresses the following features and categories of courses:

1. Student Centric flexible curriculum.
2. Inter-disciplinary Courses,
3. Multi-disciplinary Courses,
4. Ability Enhancement Courses,
5. Skill Enhancement Courses,
6. Value Added Courses,
7. Product Design and Development
8. Internship (Rural Internship, Industry Internship, Research/Development Internship), and
9. Multiple Exit and Multiple Entry
 - Certificate in Engineering after completion of first year.
 - Diploma in Engineering after completion of second year.
 - Advanced Diploma in Engineering after completion of third year.
 - Degree in Engineering after completion of fourth year





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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

SCHEME 2023 - 2027 Batch

Department of ECE

III SEMESTER

Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	23EC2301	BSC	Transforms and Numerical Methods	MAT	3	0	0	0	03	60	40	100	3
2	23EC2302	IPCC	CS cluster & ECE Data Structures	CSE	3	0	2	0	03	60	40	100	4
3	23EC2303	IPCC	CS cluster & ECE Digital Logic Design	ECE	3	0	2	0	03	60	40	100	4
4	23EC2304	PCC	ECE Network Analysis	ECE	3	0	0	0	03	60	40	100	3
5	23EC2305	PCC	ECE Signals & Systems	ECE	3	0	0	0	03	60	40	100	3
6	23LSXXX	AEC	Liberal Studies – I	Any Dept.	1	0	0	0	01	100	--	100	1
7	23EC23XX	SEC	Skill Enhancement Course – I	ECE	1	0	2	0	01	100	--	100	2
8	23EC2306		Corporate Skill I	Training & Placement	2	0	0	0	02	100	--	100	2
Total										600	200	800	22

Skill Enhancement Course - II

23EC2307	Introduction to Model-Based Design	
23ECEC2308	Microcontroller Programming	



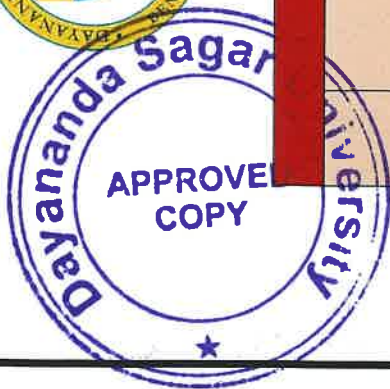


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IV SEMESTER

Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits
					Lecture	Tutorial	Practica	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks	
1	23EC2401	BSC	Probability and Statistics	MAT	3	0	0	0	03	60	40	100	3
2	23EC2402	PCC	ECE Electromagnetic Field Theory	ECE	3	1	0	0	03	60	40	100	3
3	23EC2403	IPCC	ECE Analog Electronic Circuits	ECE	3	0	2	0	03	60	40	100	4
4	23EC2404	IPCC	CS cluster & ECE Embedded System Design	ECE	3	0	2	0	03	60	40	100	4
5	23EC2405	PCC	Control & Instrumentation	ECE	3	0	0	0	03	60	40	100	3
6	23EC2406	PCC	CS cluster & ECE Computer Organization & Architecture	ECE	3	0	0	0	03	60	40	100	3
7	23EC24XX	SEC	Skill Enhancement Course – II	ECE	1	0	2	0	--	100	--	100	2
8	23EC2407		Corporate Skill II	Training & Placement	2	0	0	0	02	100	--	100	2
Total										560	240	800	24

Skill Enhancement Course - II

23EC2408	Introduction to Embedded Machine Learning	
23EC2409	Introduction to PSPICE ORCAD/Multisim-National Instruments/TINA-Texas Instruments	





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V SEMESTER														
Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week					Examination				Credits
					Lecture	Tutorial	Practica	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks		
1		IPCC	Analog and Digital Communication	ECE	3	0	2	0	3	60	40	100	4	
2		PCC	Digital Signal Processing	ECE	3	0	0	0	3	60	40	100	3	
3		PCC	Machine Learning	ECE	3	0	0	0	3	60	40	100	3	
4		IPCC	Antennas and wave propagation	ECE	3	0	2	0	3	60	40	100	4	
5		IPCC	CMOS VLSI Design	ECE	3	0	2	0	3	60	40	100	4	
6		PEC	Professional Elective Course – I / MOOC	ECE	3	0	0	0	3	60	40	100	3	
8		SEC	Skill Enhancement Course – III	ECE	1	0	2	0	1	100	--	100	2	
			Total										23	



Skill Enhancement Course - III		
	DSP Lab	XXXXX
	PLC Programming	XXXXX
	Electric Vehicle Power Management System	



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VI SEMESTER														
Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week					Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks		
													L	
1		HMSC	Innovation Management and Entrepreneurship	ECE	2	0	0	0	0	03	60	40	100	2
2		IPCC	Microwave Engineering	ECE	3	0	2	0	0	03	60	40	100	4
3		PCC	VLSI Testing & Verification	ECE	3	0	0	0	0	03	60	40	100	3
4		PCC	Networking & Communication	ECE	3	0	0	0	0	03	60	40	100	3
5		OEC	Open Elective – I	ECE	3	0	0	0	0	03	60	40	100	3
6		PEC	Professional Elective Course – II / MOOC	ECE	3	0	0	0	0	03	60	40	100	3
		PEC	Professional Elective Course – III / MOOC	ECE	3	0	0	0	0	03	60	40	100	3
8		PROJ	Minor Project	ECE	0	0	0	0	2	01	100	--	100	2
Total														23





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VII SEMESTER														
Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week					Examination				Credits
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks		
													L	
1		PCC	Wireless Communication	ECE	3	0	0	0	0	03	60	40	100	3
2		OEC	Open Elective – II	ECE	3	0	0	0	0	03	60	40	100	3
3		PEC	Professional Elective Course – IV/ MOOC	ECE	3	0	0	0	0	03	60	40	100	3
4		PEC	Professional Elective Course – V / MOOC	ECE	3	0	0	0	0	03	60	40	100	3
5		PROJ	Major Project	ECE	0	0	0	6	6	03	100	--	100	3
			Total											15





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VIII SEMESTER														
Sl.No	Course Code	Course Type	Course Name	Teaching Department	Teaching Hours / Week				Examination				Credits	
					Lecture	Tutorial	Practical	Project	Duration in Hours	CIE Marks	SEE Marks	Total Marks		
														L
1		PROJ	Capstone Project		0	0	0	22	03	60	40	100	12	
2		INT	Research Internship/ Industry Internship – III		0	0	0	0	06	100	--	100	04	
			Total										16	





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Professional Elective Courses

PROFESSIONAL ELECTIVE COURSES												
Verticals		V-1		V-2	V-3	V-4						
Domain Clusters		Signal Processing and Communication		VLSI	IoT & Embedded Systems	Interdisciplinary/ Emerging Technologies						
Sl.No	Domain Clusters	(A)		(B)	(C)	(D)	(E)	(F)				
		Wireless Networks	Sensor	Digital Image Processing	Mixed Signal VLSI design	Real Time Operating Systems Design and Programming	Sensors & Transducers	Renewable Energy Technologies				
		Network Security	Advanced Digital Signal Processing	Analog IC Design	Embedded Linux	Mechatronics	Internet of Things & Industry 4.0					
		Satellite Sensing Remote Information and Error Coding	Digital Speech Processing	Digital IC Design	Design Patterns for Embedded Systems	Industrial Instrumentation	MEMS Power Electronics					
		Radar Navigation and Optical Communication	Computer Vision	Electronic Materials Device and Processing	Linux Device Drivers	Electronic Measurement System	Introduction to Nano Electronics					
PEC-I	5 th Sem											
PEC-II	6 th Sem											
PEC-III												
PEC-IV	7 th Sem											
PEC-V												
1												
2												
3												
4												
5												





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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

OPEN ELECTIVE COURSES

Open Elective I -Courses	Open Elective II-Courses
Renewable Energy Technology	Nanotechnology and its Applications
Fundamentals of Telecommunication	Internet of Things
Electric Vehicle Technology	Reconfigurable system design

