ACADEMIC CURRICULA

UNDERGRADUATE/ INTEGRATED POST GRADUATE DEGREE PROGRAMMES

(With exit option of Diploma)

(Choice Based Flexible Credit System)

Regulations 2021

Volume - 1

(Revised on July 2023)



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)

Kattankulathur, Chengalpattu District 603203,

Tamil Nadu, India



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

30. B.Tech. in Electronics and Communication Engineering

30. (a) Mission of the Department

	Build an educational process that is well suited to local needs as well as satisfies the national and international accreditation requirements.
	Attract the qualified professionals and retain them by building an environment that fosters work freedom and empowerment.
Mission Stmt – 3	With the right talent pool, create knowledge and disseminate, get involved in collaborative research with reputed universities and produce competent graduands.

30. (b) Program Educational Objectives (PEO)

30. (5) 110	gram Eddeanonar Objectives (1110)
PEO – 1	Apply the acquired knowledge and skills in solving real-world engineering problems, considering national/global and societal issues such as health, environment, and safety.
PEO – 2	Create technologically innovative products that are economically viable and socially relevant.
PEO – 3	Develop an attitude toward pursuing knowledge and advanced education for sustained career advancement to adapt to emerging fields.
PEO – 4	Demonstrate leadership qualities and effective communication skills to work in a team of enterprising people in a multidisciplinary

30. (c) Mission of the Department to Program Educational Objectives (PEO) Mapping

	Mis	ssion Stmt	1	Mission Stmt 2	Mission Stmt 3
PEO - 1		1		2	3
PEO - 2	1	3	and the State	3	3
PEO-3		2	1000	1.414	3
PEO - 4		3		3	3

^{3 –} High Correlation, 2 – Medium Correlation, 1 – Low Correlation

30. (d) Mapping Program Educational Objectives (PEO) to Program Outcomes (PO)

			Egy 1	Ŵц.	Pro	gram Ou	tcomes (PO)		177	4		Prog	gram Spe	ecific
	1	2	3	4	5	6	7	8	9	10	11	12	Outo	com <mark>es (</mark> F	'SO)
T. C. C. C.	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PS0-1	PSO-2	PSO-3
PEO - 1	3	3	71	7	AR	3	3	2		-	-		3	/-	-
PEO - 2			3	3	3	3	LIL	AT.	2	E_{i}	3	-/	· /	3	-
PEO - 3	-		-	3	3	-	2	2	-	2		3	-	2	3
PEO - 4	-	· *.	-	-	-	-	-	3	3	3	3	ر - ۲۰	-	-	3

^{3 –} High Correlation, 2 – Medium Correlation, 1 – Low Correlation

PSO – Program Specific Outcomes (PSO)

PSO - 1	Problem-Solving Skills: Should be able to associate the learning from the courses related to Microelectronics, Signal processing, Microcomputers, Embedded and Communication Systems to arrive at solutions to real world problems.
PSO - 2	Professional Skills: Should have the capability to develop competence in using electronic modern design tools (both software and hardware) for the design and analysis of complex electronic systems in furtherance to research activities.
PSO - 3	Successful Career and Entrepreneurship: Should be able to understand the need for new skills to accommodate the rapidly changing industry research pattern in this field to have a successful career and to sustain passion and zeal for real-world applications using optimal resources as an entrepreneur.

30. (e) Program Structure: B.Tech. in Electronics and Communication Engineering

	Humanities & Social Sciences						Basic Science Courses (B)				
	including Management Courses (H)					Course	, ,	H	lours	s /	
Course	Course		ours			Course Code	Course Title	١	<u>Nee</u>		
Code	Title	\	Vee			Code	****	L	Τ	Р	С
		L	Τ	Р	С	21PYB101J	Physics: Electromagnetic Theory,	3	1	2	5
	Communicative English	2	1	0	3		Quantum Mechanics, Waves and Optics				
	Chinese					21CYB101J	Chemistry	3	1	2	5
21LEH103T						21MAB101T	Calculus and Linear Algebra	3	1	0	4
	German	2	1	0	3	21MAB102T	Advanced Calculus and Complex	3	1	0	4
	Japanese	_			ľ	211111111111111111111111111111111111111	Analysis	Ľ		_	ľ
21LEH106T						21MAB201T	Transforms and Boundary Value	3	1	0	4
21LEH107T							Problems				
	Philosophy of Engineering	1	0	2	2		Probability and Stochastic Processes	3	1	0	4
	Social Engineering	2	0	0	2		Discrete Mathematics	3	1	0	4
21GNH401T	Behavioral Psychology	2	1	0	3	21BTB103T	Biology	2	0	0	2
	To	otal	Cre	dits	13		To	otal	Cre	dits	32
	Engineering Science Courses (S)						Professional Core Courses (C)				
		Н	ours	3 /				F	lours	:/	
Course	Course		Vee			Course	Course		Nee		
Code	Title	Ī	ΙT	P	С	Code	Title	T	T	Р	С
21MES101I	Basic Civil and Mechanical Workshop	0	0	4	2	21ECC101J	Electronic System and PCB Design	2	0	2	3
+	Engineering Graphics and Design	0	0	4	2		Solid State Devices	3	0	0	3
21FFS101T	Electrical and Electronics Engineering	3	1	0	4		Analog and Linear Electronic Circuits	3	0	0	3
	Programming for Problem Solving	3	0	2	4		Digital Logic Design	3	0	0	3
	Computer Organization and Architecture	3	1	0	4		Signal Processing	3	0	0	3
	Design Thinking and Methodology	1	2	0	3	21FCC205T	Electromagnetic Theory and Interference	3	0	0	3
21CSS303T		2	0	0	2		Devices and Digital IC Laboratory	0	0	4	2
210333031		tal		-			Analog and Linear Electronic Circuits	U	U	4	
		Jiai	CIE	uits	21	21ECC222L	Laboratory	0	0	4	2
	Non Credit Courses (M)	_					Microprocessor, Microcontroller, and				
	. , ,	Н	ours	s /		21ECC301P	Interfacing Techniques	3	1	0	4
Course	Course		Nee			21ECC302T	Analog and Digital Communication	3	0	0	3
Code	Title	П	T	Р	С		VLSI Design and Technology	3	0	0	3
21PDM101LF	Professional Skills and Practices	0	0	2	0		Microwave and Optical Communication	3	0	0	3
	General Aptitude	0	0	2	0		VLSI Design Laboratory	0	0	4	2
	/erbal Reasoning	0	0	2	0		Communication Laboratory	0	0	4	2
	Critical and Creative Thinking Skills	0	0	2	0		Wireless Communication and Antenna		U	4	
	Analytical and Logical Thinking Skills	0	0	2	0	21ECC401T	Systems	3	0	0	3
21 DM301L F	Employability Skills and Practices	0	0	2	0		Computer Communication and Network				
	Environmental Science	1	0	0	0	21ECC402P	Security	2	1	0	3
	Constitution of India	1	0	0	0	21CSC206T	Artificial Intelligence	2	1	0	3
	Jniversal Human Values – Introduction	1	0	0	0	210002001			Cre	_	
241 EM204T E	Professional Ethica	1	0	0	0			otai	OIC	uito	70
ZTLLWIZOTT	Iniversal Human Values-II: Understanding	+					Open Elective Courses (O)				
21LEM202T	Professional Ethics Jniversal Human Values-II: Understanding Harmony and Ethical Human Conduct	2	1	0	3		(Any 3 courses)				
II I'	ndian Art Form	1	0	0	0	Course	Course		lours		
	ndian Art Form ndian Traditional Knowledge	1	0	0	0	Code	Title	\	Vee		
	Physical and Mental Health using Yoga	<u> </u>	U	U	U			L	_	Р	
	National Service Scheme						Short Range Wireless Communication	3	0	0	3
	National Cadet Corps	0	0	2	0	21ECO102J	Electronic Circuits and Systems	2	0	2	3
	National Sports Organization					21ECO103T	Modern Wireless Communication	3	0	0	3
Z I GIVIVI I U4L IV		otal	Cro	dito	0.3	ll <mark>.</mark>	Systems				
		Jidi	OI E	นแอ	US		PCB Design and Manufacturing	2	0	2	3
							Fiber Optics and Optoelectronics	3	0	0	3
Project Wor	rk, Seminar, Internship in Industry / High	ner 1	Геch	nnic	al	21ECO106J	Embedded System Design using Arduino	2	0	2	3
	Institutions (P)					21ECO107J	Embedded System Design using	2	0	2	3
Course	Course		urs /	'			Raspberry Pi	2	U	2	5
Code	Title	W	<u>eek</u>			21ECO108J	3D Printing Hardware and Software	2	0	2	3
				Р	С		To	otal	Cre	dits	09
21GNP301L) ()	2	1						
21ECP302L	Project) ()	6	3						
21ECP303T		3 (_	0							
21ECP401L	Major Project) () ;	30	15						
21ECP402L		_		20	10						
21ECP403L		_		10	5						
		tal C			19						
						1					

	Professional Elective Courses (E) (Any 6 Courses)						Professional Elective Courses (E)				
Course	Course		ours Vee			Course	Course		ours Veel		
Code	Title	L	Т	Р	С	Code	Title	L	Т	Р	С
S	Sub-Stream: Electronic System Engineer	ing				Sub	-Stream: Communication System Engin	eerii	ng		
21ECE201J	Python and Scientific Python	2	0	2	3	21ECE220T	Wireless and Optical Sensors	3	0	0	3
21ECE202T	Micro- and Nano-Fabrication	3	0	0	3	21ECE221T	Radar and Navigational Aids	3	0	0	3
21ECE2021	Technologies	3	٥	U	3	21ECE222T	Adhoc and Sensor Networks	3	0	0	3
21ECE203J	Smart Sensors and Devices for Agriculture	2	0	2	3	21ECE223T	Satellite Communication and Broadcasting	3	0	0	3
21ECE204T	Optoelectronics	3	0	0	3	21ECE224T	Cryptography and Network Security	3	0	0	3
21ECE205T	Flexible Electronics	3	0	0	3	21ECE225T	Optical Systems and Networks	3	0	0	3
21ECE212T	Control Systems: Theory and Applications	3	0	0	3	21ECE320T	Software Defined Networks	3	0	0	3
21ECE260T	Industrial Electronics	3	0	0	3	21ECE321T	RF and Microwave Semiconductor	3	0	0	3
21ECE261T	Measurements and Instrumentation	3	0	0	3	21EGE3211	Devices	3	U	U	3
21ECE262T	Low Power Sensors Technology	3	0	0	3	21ECE322T	Data analytics using R	3	0	0	3
21ECE263T	Micro, Nano Electromechanical Devices	3	0	0	3	21ECE323T	Cyber Security	3	0	0	3
21ECE301T	Nanoscale Electronic Devices	3	0	0	3	245052245	Advanced Mobile Communication	3	0	0	3
21ECE302J	Real Time Operating Systems	2	0	2	3	21ECE324T	Systems	J	U	U	٥
21ECE303T	MEMS Technologies	3	0	0	3	21ECE420T	Information Theory and Coding	3	0	0	3
21ECE304T	Cyber Physical System Framework	3	0	0	3	21ECE421T	Wireless Communication Networks	3	0	0	3
	Machine Learning Algorithms	2	0	2	3		Sub-Stream: Signal Processing				
21ECE361T	Consumer Electronics and Trouble shooting	3	0	0	3		Wavelets and Signal Processing Audio and Speech Processing	3	0	0	3
21ECE362T	Quality and Reliability Engineering	3	0	0	3		Pattern Recognition and Neural Networks	2	0	2	3
	Electronic Packaging	3	0	0	3		Digital Image and Video Processing	2	0	2	3
21ECE366T	Digital Integrated Circuits and Synthesis	3	0	0	3		DSP System Design	2	0	2	3
	Advanced Digital System Design	3	0	0	3	045050045	Digital Signal Processors, Architectures		_		_
21ECE402T	Semiconductor Device Modeling	3	0	0	3	21ECE364T	and Applications	3	0	0	3
	Microwave Integrated Circuits	3	0	0	3	21ECE440T	Adaptive Signal Processing	3	0	0	3
		3	0	0	3		Machine Perception with Cognition	3	0	0	3
21ECE460T	Emerging Processor Based System Design	3	0	0	3		Multimedia Compression Techniques	3 otal	0 Cred	0 dits	3 18
21ECE461T	Semiconductor Memory Design	3	0	0	3						
21ECE463T	Scripting Language for Electronic Design Automation	3	0	0	3	15.					
21ECE464T	Statistical Analysis and Optimization for VLSI	3	0	0	3						
21ECE468T	System and Network on Chip	3	0	0	3	11.					

30. (f) Programme Articulation: B.Tech. in Electronics and Communication Engineering

Course Name Code Code			1			F	rogra	m Ou	tcome	es (PC))					PSO	
21ECCI01F Electronic System and PGB Design 3 25 267 3 2 2 28 25 267 28 27 28 27 28 28 28 2			1	2	3				7			10	11	12	1		3
ElecCo2017 Indicational asystem and PLS Dissip) 3 25 207 3 2 2 6 6 2 2 2 2 3 2 2 2 3 3	Code		Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO-1	PSO-2	PSO-3
21ECC2021 Analog and Linear Electronic Circuits 2 2 3 3 3 2 3 3 3 2 2	21ECC101J	Electronic System and PCB Design			2.67		3									2.5	
21ECC2037 Digital Logic Design 3 2 2 3 3 2 2 2 3 2 2			3	2										1	1		
21ECCQ24F Signal Processing			2	2	3												3
21ECC0201 Encoronageneit: Theory and Interference							3			-					3		
21ECC221L Devices and Digital C Laboratory 2 2 3 3					3	3			70.								2.2
21ECC222L Analog and Linear Electronic Circuits 2																	
21ECC301 Virging page 2	21ECC211L		3	2	7.7	12	1								1		
Company Interfacing Techniques Communication Communica	21ECC222L	Laboratory	2	H	2	H	3		1								
21ECC303T VLSI Design and Technology	ZIECC30IP	Inte <mark>rfacing Tec</mark> hniques			3				W	V	4						
21ECC301 Microweve and Optical Communication 2.8 2 2 3			3				3		L	1	g .	_		2			2.5
21ECC2111						10.				_		G.	1				
21ECC2321					2	3					т,	1				2	
2				3		ئىيلا	1									_	
21ECC2011 Systems 3 2 3 3 3 3 3 2 3 3	21ECC322L		2	Str	2.5	3	-34					3	1	1	3	2	
Security Security	21ECC <mark>401T</mark>	Systems	3	2.3			Ü	12/2		1			5	2			3
21ECE202T	21EC <mark>C40</mark> 2P	Security	2.67		100				Ġ,	mir John			5				
21ECE2031 Smart Sensors and Devices for Agriculture 2			17	2.7	_		3			20	3						
21ECE204T Optoelectronics 2.8 2.7 2.67 2.67			_			2		N.	del	1	- 4						
21ECE2217 Control Systems: Theory and Applications 3 3 3 2 2 2 2 2 2 2							2	2.	- 3	1				2	2		
21ECE2217 Control Systems: Theory and Applications 3 2.8					2.67	2.67	-4										2.4
21ECE220T Wireless and Optical Sensors 3			_					_	4	7.44				3			
21ECE221T Radar And Navigational Aids 2.8 2 3 3 2 2.5 2.5 2.3 2.5					4.5		3.	-						ď.,	7		^
21ECE227															2.2	2	
21ECE223T Satellite Communication and Broadcasting 2.5 2 2.5						2		2						2			
21ECE224T Cryptography and Network 2.6 3 2 3 2 3 3 2 3 3 3 3 2 2.5 2.5 3 3 3 3 3 2 2.5 2.5 3 3 3 3 2 2.2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 2 2.25 1 1 2 <td< td=""><td></td><td></td><td></td><td>2</td><td></td><td>3</td><td></td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>3</td></td<>				2		3		3									3
21ECE225T Optical Systems and Networks 3 2 2.5 2.5 3 3 2 2.5 2.5 3 1 2 2 2 2.25 1 3 1 2 2 2 2.25 1 3 1 2 2 2 2.25 1 3 1 2 2 2 2.25 1 3 1 2											7	11	-		2.0		
21ECE240T Wavelets and Signal Processing 2 2 2.25 1 1 2 21ECE241J Audio and Speech Processing 3 2 2 3 1 2 21ECE242J Pattern Recognition and Neural Networks 1.5 1 2.3 3 3 2 2 2.5 21ECE261T Industrial Electronics 2.75 2 2 3 3 1.7 2 21ECE261T Industrial Electronic Sand Instrumentation 3 2 2 2 2 1.7 2 21ECE261T Low Power Sensors Technology 2.2 3 2 2 1 2 21ECE263T Micro, Nano Electro Mechanical Devices 3 2.5 2.7 2 1 2 2 2 1 2 2 1 2 2 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2						2.5					3	7					.3
21ECE241J Audio and Speech Processing 3 2 2 3 1 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 2 1 2 2 2 2 1 2															1		
21ECE242J Pattern Recognition and Neural Networks 1.5 1 2.3 3 3 2 2 2.5 2 2.5 2 2.5 2 2.5 2 2 1.7 2 2 2.5 2 2 1.7 2 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 2 1 2 2 2 1 2 2 2 1 2 2 2 1 2 </td <td></td> <td></td> <td></td> <td></td> <td></td> <td>7</td> <td>3</td> <td>1</td> <td></td> <td></td> <td></td> <td>-7</td> <td>- 7</td> <td>-</td> <td></td> <td></td> <td></td>						7	3	1				-7	- 7	-			
21ECE260T Industrial Electronics 2.75 2 2 3 1.7 2 21ECE261T Measurements and Instrumentation 3 2 2 2 1 21ECE262T Low Power Sensors Technology 2.2 3 2 2.7 2 21ECE263T Micro, Nano Electro Mechanical Devices 2.4 2 2.5 3 2.7 3 21ECE302J Real Time Operating Systems 3 3.5 2.5						3			L	M	٦ŀ					2	2.5
21ECE261T Measurements and Instrumentation 3 2 2 2 2 1 2 2 1 2 2 1 2 2 1 2 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 3 2 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>1</td> <td></td> <td>Æ.</td> <td>13</td> <td>7</td> <td></td> <td></td> <td></td> <td>1.7</td> <td></td> <td></td>							1		Æ.	13	7				1.7		
21ECE262T Low Power Sensors Technology 2.2 3 2.7 21ECE263T Micro, Nano Electro Mechanical Devices 2.4 2 2.75 3 2.7 3 2.2 2.5 2.8 2.8 2.8 2.8 2.8 2.8 2.8 <					_	2					_			2	1		
21ECE263T Micro, Nano Electro Mechanical Devices 2.4 2 2.75 2.5 3 2.7 3 21ECE301T Nanoscale Electronic Devices 3 2.5 2.5 2.5 2 2.5 21ECE303J Real Time Operating Systems 3 3 3 2 1 1 4 2 2 1 1 4 2 2 1 1 4 2 2 1 1 2												. 4			2.7		
21ECE302J Real Time Operating Systems 3 3 3 2 3					2.75						_4					2.7	
21ECE303T MEMS Technologies 2.2 2 3 3 3 2 2.8 21ECE304T Cyber Physical System Framework 3 2.2 3 3 3 3 3 3 3 3 1.4 2 21ECE305J Machine Learning Algorithms 3 1.3 3 1.8 3 1.8 1.4 2 2.3 2 1 2 1 21ECE320T Software Defined Networks 3 1.8 1.5 2 2 1 2 1 2 3 3 3 3 3 2 2 1 2 2 2 3 3 3 2<										_ 6		, - ⁻					2.5
21ECE304T Cyber Physical System Framework 3 2.2 3 3 1.8 1.4 1.5							2				-						
21ECE305J Machine Learning Algorithms 3 1.3 3 1.8 1.4 1.4 21ECE320T Software Defined Networks 3 2 2 1 21ECE321T RF and Microwave Semiconductor Devices 3 1.8 1.5 2 1 21ECE322T Data Analytics using R 3 3 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 2 2 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 2 1 3 3 3 2 2 2 2 2 3 3 3 2 2 2 2 2 2 2 2 2 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>-</td> <td></td> <td></td> <td>- 11-12-12-12-12-12-12-12-12-12-12-12-12-1</td> <td></td> <td></td> <td></td> <td></td> <td>2</td> <td>2.8</td> <td></td>							-			- 11-12-12-12-12-12-12-12-12-12-12-12-12-1					2	2.8	
21ECE320T Software Defined Networks 3					3						3						
21ECE321T RF and Microwave Semiconductor Devices 3 1.8 1.5 2 1 21ECE322T Data Analytics using R 3 3 2 3 3 3 21ECE323T Cyber Security 3 3 3 3 3 2 21ECE324T Advanced Mobile Communication Systems 3 2 2 2.5 3 3 2 21ECE34UJ Digital Image and Video Processing 2.6 2.3 2.3 3 2 2.6 2.5 1 21ECE341J DSP System Design 1 2.3 3 2.5 3 2 2 2.6 2.5 1 21ECE361T Consumer Electronics and Trouble shooting 2.75 2 2 3 3 1.7 2.5 2 21ECE362T Quality and Reliability Engineering 3 1.5 2				1.3		3	1.8										
21ECE322T Data Analytics using R 3 3 2 3 3 3 21ECE323T Cyber Security 3 3 3 3 3 3 2 21ECE324T Advanced Mobile Communication Systems 3 2 2 2.5 3 3 2 2 21ECE34UJ Digital Image and Video Processing 2.6 2.3 2.3 3 2 2.6 2.5 1 21ECE341J DSP System Design 1 2.3 3 2.5 2 3 2 2 2 2 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2					4 -											2	
21ECE323T Cyber Security 3 3 3 3 2 2 2.5 3 3 2 2 2.5 3 3 2 2 2.5 3 3 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2.5 1 2 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 3 2 2 2 2 2 2 2 2 2 2 2 2			3														
21ECE324T Advanced Mobile Communication Systems 3 2 2 2.5 3 3 2 21ECE34UJ Digital Image and Video Processing 2.6 2.3 2.3 3 2 2.6 2.5 1 21ECE341J DSP System Design 1 2.3 3 2.5 2 2 21ECE361T Consumer Electronics and Trouble shooting 2.75 2 2 3 1.7 2.5 3 21ECE362T Quality and Reliability Engineering 3 1.5 2 <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td> 2</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>-</td><td></td><td>3</td></t<>							2								-		3
21ECE340J Digital Image and Video Processing 2.6 2.3 2.3 3 2.6 2.5 1 21ECE341J DSP System Design 1 2.3 3 2.5 2 2 21ECE361T Consumer Electronics and Trouble shooting 2.75 2 2 3 1.7 2.5 21ECE362T Quality and Reliability Engineering 3 1.5 2 2 2 21ECE363T Electronic Packaging 3 2 2 2 2 2 21ECE364T Digital Signal Processors, Architectures and Applications 2.2 3 2 3 2 2 2 21ECE366T Digital Integrated Circuits and Synthesis 3 2 3 1 2 1.5 2.7			2			2.5					2			2	3	2	
21ECE341J DSP System Design 1 2.3 3 2.5 2 2 21ECE361T Consumer Electronics and Trouble shooting 2.75 2 2 3 1.7 2.5 21ECE362T Quality and Reliability Engineering 3 1.5 2 2 21ECE363T Electronic Packaging 3 2 2 2 21ECE364T Digital Signal Processors, Architectures and Applications 2.2 3 2 3 2 2 21ECE366T Digital Integrated Circuits and Synthesis 3 2 3 1 2 1.5 2.7											J			J	26		1
2.75 2 2 3	21ECE341J	DSP System Design	1												2.0	۷.ن	
21ECE363T Electronic Packaging 3 2 2 23 2.3 2 21ECE364T Digital Signal Processors, Architectures and Applications 2.2 3 2 2 2 2 21ECE366T Digital Integrated Circuits and Synthesis 3 2 3 1 2 1.5 2.7	21ECE361T	shooting				3									1.7	2.5	
21ECE364T Digital Signal Processors, Architectures and Applications 2.2 3 2 2 2 21ECE366T Digital Integrated Circuits and Synthesis 3 2 3 1 2 1.5 2.7					2		<u> </u>							0.0			2
21ECE3647 and Applications 2.2 3 2 2	21ECE363T	Electronic Packaging	3	2	-		<u> </u>							2.3	2.3		
	ZTECE304T	and Applications															
·-·	21ECE366T	Digital Integrated Circuits and Synthesis	3	2	3	1	2								1.5	2.7	154

					F	rogra	m Ou	tcome	s (PC))					PSO	
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
Course Code	Course Name	Engineering Knowledge	Problem Analysis	Design/development of solutions	Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	Environment & Sustainability	Ethics	Individual & Team Work	Communication	Project Mgt. & Finance	Life Long Learning	PSO-1	PSO-2	PSO-3
21ECE401T	Advanced Digital System Design	3	2	2.2		3								1		1
21ECE402T	Semiconductor Device Modeling	3	2	3												2
21ECE403T	Microwave Integrated Circuits	3	2	1.67												2
21ECE404T	Terahertz Devices and Applications	3	2.8	2	2			2						2.3	2	3
21ECE420T	Information Theory and Coding		3	3											2	
21ECE421T	Wireless Communication Networks	3	2.8	2	2	10,	- iii -	2						2.3	2	3
21ECE440T	Adaptive Signal Processing	3	2.2	2.75				70						2	1.5	1
21ECE441T	Machine Perception with Cognition	2.6	2	3	3				7		-			2	3	
21ECE442T	Multimedia Compression Techniques	3	2	2.3					1	T 0,		_		1	1	2
21ECE460T	Emerging Processor based System Design		2	2.4	1.66	1.5					٠,				2	2
21ECE461T	Semiconductor Memory Design	2.8	2	-	1.4	11								1.8		
21ECE463T	Script <mark>ing Languag</mark> e for Electronic Design Aut <mark>omation</mark>	-	2	3	2.66	2		V	1	5			1			2
21ECE464T	Statistical Analysis and Optimization for VLSI	1	2	3	2.5			١.	7	1	X		٠,	N		1.8
21ECE468T	System and Network on Chip		2.5	3	2	2				+	7		1	3		2
	Community Connect	H.		2-3	W. 1		3		3	3	2				L.	
21ECP3 <mark>02L</mark>	Proj ect	3	3	3	-3	3	3	3	3	3	3	3	3	3	3	3
21ECP <mark>303T</mark>		3	2	۲.	. 77	17.					7	-		3		
21ECP401L	Major Project	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Major Project	3_	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21ECP403L		3	3	3	3	3	13 -	3	3	3	3	3	-3	3	3	3
	Program Average	2.69		2.48	2.44			2.33				2.00				



30. (g) Implementation Plan: B.Tech. in Electronics and Communication Engineering

	Semester – I		_	_	\exists		Semester – II				
	Semester – r	Н	ours	. /			Semester – II	T +	lour	s /	
Course	Course		Veel	-		Course	Course		Wee		
Code	Title	T	T	Р	С	Code	Title	\vdash		P	l c
21LEH101T	Communicative English	2	1	0	3	21LEH102T	Chinese	Ť	Ľ	<u> </u>	Ĭ
21MAB101T	Calculus and Linear Algebra	3	1	0	4	21LEH103T		1			
	Physics: Electromagnetic Theory,					21LEH104T		Ħ			
21PYB101J	Quantum Mechanics, Waves and Optics	3	1	2	5	21LEH105T		2	1	0	3
21MES102L		0	0	4	2		Korean	١,			
	0 0 1	3	1	0	4	21LEH107T		+			
21CYM101T	5 5	1	0	0	0		Philosophy of Engineering	1	0	2	2
	Professional Skills and Practices	0	0	2	0		Advanced Calculus and Complex				-
21LEM101T	Constitution of India	1	0	0	0	21MAB102T	Analysis	3	1	0	4
ZILLIVITOTT				dits		21CYB101J		3	1	2	5
	10	,tui ·	0100	1113			Electronic System and PCB Design	2	0	2	3
	Semester – III						Programming for Problem Solving	3	0	2	4
Cauraa	Course	Н	ours	; /		21BTB103T		2	0	0	2
Course	Course Title	٧	Veel				Basic Civil and Mechanical Workshop	0	0	4	2
Code	riue	Г	Т	Р	С		General Aptitude	0	0	2	0
21MAB201T	Transforms and Boundary Value Problems	3	1	0	4		Physical and Mental Health using Yoga	- 0	U		10
	Social Engineering	2	0	0	2		National Service Scheme	-			
	Computer Organization and Architecture	3	1	0	4		National Cadet Corps	– 0	0	2	0
	Solid State Devices	3	0	0	3		National Sports Organization	-			
21ECC203T I	Digital Logic Design	3	0	0	3	Z I GINIVI I U4L		Total	Cro	dito	25
21ECC205T F	Electromagnetic Theory and Interference	3	0	0	3			Otai	CIE	นแร	Z
21ECC211L I	Devices and Digital IC Laboratory	0	0	4	2		Semester – IV				
21LEM201T	Professional Ethics	1	0	0	0	Course	Course	T	lour	s/	
21PDM201L	Verbal Reasoning	0	0	2	0	Course	Title	1	Wee	ek	
1	Universal Human Values-II: Understanding	_	,			Code	riue	L	Τ	Р	С
711 HW/7071	Harmony and Ethical Human Conduct	2	1	0	3	21MAB203T	Probability and Stochastic Processes	3	1	0	4
	To	otal	Cred	dits	24	21ECC202T	Analog and Linear Electronic Circuits	3	0	0	3
		7.7	٠.	47	Ţ	21ECC204T	Signal Processing	3	0	0	3
			10			21ECC222L	Analog and Linear Electronic Circuits	0	0	4	2
	Semester – V					ZTEGGZZZL	Laboratory		U	4	-
Course	Course		ours			21CSC206T	Artificial Intelligence	2	1	0	3
Code	Title	٧	Veel			Ε	Professional Elective-I				3
		L	T	Р	С		Design Thinking and Methodology	1	2	0	3
21MAB302T	Discrete Mathematics	3	1	0	4	21PDM202L	Critical and Creative Thinking Skills	0	0	2	0
21ECC301P	Microprocessor, Microcontroller, and	3	1	0	4		-	Total	Cre	dits	21
	Interfacing Techniques				·		Semester – VI				
	VLSI Design and Technology	3	0	0	3		Ocinicator - Vi				T
21ECC311L		0	\sim 1					<u> </u>	lour	c /	
			0	4	2	Course	Course		lour		
Ε	Professional Elective – II		U	4	3	Course Code	Course Title		lour Wee	k	C
E 0	Open Elective – I		0		3	Code	Title	L	Wee	k P	C
E O 21GNP301L	Open Elective – I Community Connect	0	0	2	3 3 1	Code 21CSS303T	Title Data Science	L 2	Wee	P 0	2
E O 21GNP301L 21PDM301L	Open Elective – I Community Connect Analytical and Logical Thinking Skills	0	0		2 3 3 1 0	Code 21CSS303T 21ECC302T	Title Data Science Analog and Digital Communication	L 2 3	T 0	P 0 0	3
E O 21GNP301L 21PDM301L	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	0	0 0 0	2 2 0	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T	Title Data Science Analog and Digital Communication Microwave and Optical Communication	L 2 3	T 0 0 0	P 0 0 0 0	3 3
E O 21GNP301L 21PDM301L	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	0	0 0 0	2 2	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory	L 2 3	T 0 0 0	P 0 0 0 0	2 3 3 2
E O 21GNP301L 21PDM301L	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	0	0 0 0	2 2 0	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III	L 2 3	T 0 0 0	P 0 0 0 0	2 3 2 2
E O 21GNP301L 21PDM301L	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	0	0 0 0	2 2 0	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV	L 2 3	T 0 0 0	P 0 0 0 0	2 3 2 2 3 3
E O 21GNP301L 21PDM301L 21LEM301T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII	0 1 otal	0 0 0	2 2 0 dits	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E O	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II	L 2 3 3 0	Vee T 0 0 0	P 0 0 0 0 4	2 3 3 2 3 3 3
E O 21GNP301L 21PDM301L 21LEM301T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course	0 1 otal	0 0 0	2 2 0 dits	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project	L 2 3 3 0 0	Weee	P 0 0 0 4 4 6	2 3 3 2 3 3 3
E O 21GNP301L 21PDM301L 21LEM301T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII	0 1 otal	0 0 0 Cred	2 2 0 dits	2 3 1 0 0 20	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E C 0 21ECP302L 21ECP303T	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC	L 2 3 3 0 0	T	P 0 0 0 0 4 4 6 0 0	2 3 3 2 3 3 3
E 0 21GNP301L 21PDM301L 21LEM301T Course Code	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title	0 1 otal	0 0 0 Cred	2 2 0 dits	2 3 1 0	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E O 21ECP302L 21ECP303T 21PDM302L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices	L 2 3 3 0 0	T	P 0 0 0 4 4 6 0 2	2 3 3 2 2 3 3 3 3 0
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title	O 1 otal	0 0 0 Crec	2 2 0 dits	2 3 3 1 0 0 20 C	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E O 21ECP302L 21ECP303T 21PDM302L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge	L 2 3 3 0 0	Weee	P 0 0 0 0 4 4 6 0 0 2 0 0	2 3 3 2 3 3 3 0 0
E 0 21GNP301L 21PDM301L 21LEM301T Course Code	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology	0 1 otal (0 0 0 Cred	2 2 0 dits	2 3 3 1 0 0 20	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E O 21ECP302L 21ECP303T 21PDM302L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge	L 2 3 3 0 0	Weee	P 0 0 0 0 4 4 6 0 0 2 0 0	2 3 3 3 3 3 3 0 0
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems	O 1 Ottal	0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E E O 21ECP302L 21ECP303T 21PDM302L	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge	L 2 3 3 0 0	Weee	P 0 0 0 0 4 4 6 0 0 2 0 0	2 3 3 3 3 3 3 0 0
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security	O 1 otal	0 0 0 Crec	2 2 0 dits	2 3 3 1 0 0 20 C	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge	L 2 3 3 3 0 0 0 0 1 1 Total	0 0 0 0 0 0 0 0	P 0 0 0 0 4 4 6 0 0 2 0 0 edits	22 33 33 22 33 33 30 00 00
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security Professional Elective – V	O 1 Ottal	0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E C 21ECP302L 21ECP303T 21PDM302L 21LEM302T Course	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge Semester - VIII Course	L 2 3 3 3 0 0 0 1 Total	T	ek P 0 0 0 0 4 4 6 6 0 2 0 edits	2 3 3 3 3 3 3 3 0 0
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security	O 1 Ottal	0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge	L 2 3 3 3 0 0 0 1 1 Total Hct W	T	ek P 0 0 0 0 4 4 6 0 0 2 0 0 edits	22 33 33 33 33 33 30 00 00 00
E 0 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T 21ECC402P E	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security Professional Elective – V	O 1 Ottal	0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T Course Code	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge Semester - VIII Course Title	L 2 3 3 3 0 0 0 1 Total Hckyy	Wee T 0 0 0 0 0 0 Creek T	P 0 0 0 0 4 4 0 0 0 0 0 0 0 0 0 0 0 0 0	22 33 33 33 33 34 22 4 4 6 6 6 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7
E O 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T 21ECC402P E E	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security Professional Elective – V Professional Elective – VI Open Elective – III	0 1 btal (V L 2 3	0 0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3 3 3 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T Course Code 21ECP401I	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge Semester - VIII Course Title Major Project	L 2 3 3 3 0 0 1 1 Total Hcc W L 0	T	P 0 0 0 0 4 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0	22 33 33 33 33 33 30 00 00 15
E O 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T 21ECC402P E E	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security Professional Elective – V Professional Elective – VI Open Elective – III	0 1 btal (V L 2 3	0 0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3 3 3 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T Course Code 21ECP4011 21ECP4021	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge Semester - VIII Course Title Major Project Major Project	L 2 3 3 3 0 0 0 0 0 0 0	T	P 0 0 0 0 4 4 6 6 0 0 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	22 33 33 33 33 33 30 00 00 00 15 10
E O 21GNP301L 21PDM301L 21LEM301T Course Code 21GNH401T 21ECC401T 21ECC402P E E	Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title Behavioral Psychology Wireless Communication and Antenna Systems Computer Communication and Network Security Professional Elective – V Professional Elective – VI Open Elective – III	0 1 btal (V L 2 3	0 0 0 0 Crec	2 2 0 0 dits	2 3 1 0 0 20 C 3 3 3 3 3 3	Code 21CSS303T 21ECC302T 21ECC304T 21ECC322L E O 21ECP302L 21ECP303T 21PDM302L 21LEM302T Course Code 21ECP401I	Title Data Science Analog and Digital Communication Microwave and Optical Communication Communication Laboratory Professional Elective – III Professional Elective – IV Open Elective – II Project MOOC Employability Skills and Practices Indian Traditional Knowledge Semester - VIII Course Title Major Project Major Project Internship#	L 2 3 3 3 0 0 0 0 0 0 0	T	P 0 0 0 0 4 4 6 0 0 0 0 0 0 0 0 0 0 0 0 0	22 33 33 33 33 33 33 34 35 35 36 36 37 37 37 37 37 37 37 37 37 37 37 37 37

#Students have to register either 21ECP401L or 21ECP402L and 21ECP403L both in eighth semester



SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

(Deemed to be University u/s 3 of UGC Act, 1956)

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