# **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 2024)



# 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 Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India

#### 3. B.Tech. in Automation and Robotics

#### 3. (a) Mission of the Department

Mission Stmt – 1	To have a scholarly and professional environment to make long lasting contributions for the advancement of knowledge.
Mission Stmt – 2	To foster research and development for the benefit of global community.
Mission Stmt – 3	To have an innovative, dynamic, flexible devising academic program and structure.

#### 3. (b) Program Educational Objectives (PEO)

<del>3. (3)</del> 110	gram Educational Objectives (120)
PEO – 1	Graduates will be able to take up career in robotics and automation of industrial process with environment protection and safety concern.
PEO – 2	Graduates will be able to solve technical problems to serve the society in a responsible and ethical manner.
PEO – 3	Graduates will be able to serve the end users with cutting edge technologies to meet industry standards
PEO – 4	Graduates will be able to achieve broad and in-depth knowledge of automation and robotics to practice and pursue higher studies
PEO – 5	Graduates will be able to work as a team on multidisciplinary projects and excel in their career

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

	Mission Stmt 1	Mission Stmt 2	Mission Stmt 3
PEO - 1	3	-2	3
PEO - 2	3	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	3 -
PEO - 3	10-70-30	STATE OF THE STATE OF	2
PEO - 4	2	LIN 39 13 MFT N 1445	3
PEO - 5	2	3	3_

<sup>3 –</sup> High Correlation, 2 – Medium Correlation, 1 – Low Correlation

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

		- 8			Pro	gram Ou	tcomes (	PO)	-8-				Prog	gram Spe	ecific
	1	2	3	4	5	6	7	8	9	10	11	12	Outo	SO)	
	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
PEO - 1	3	2	3	-	3	2	3	2	2	2	2	3	3	2	3
PEO - 2	3	3	2	3	2	3	2	3	2	2	-		2	2	3
PEO - 3	3	3	2	1	3	-	-	3	-	3	3	/	3	2	3
PEO - 4	3	2	3	2	1	-	-	2	-	2	٠	3	1	3	1
PEO - 5	3	3	3	3	2	41	1	2	3	3	3	3	2	3	2

<sup>3 –</sup> High Correlation, 2 – Medium Correlation, 1 – Low Correlation

#### PSO - Program Specific Outcomes (PSO)

PSO - 1	Design and develop a suitable control methodology for an industrial process automation system.
PSO - 2	Apply the knowledge gained on robotics through the process of design, development, and implementation of automation system.
PSO - 3	Undertake higher education, research and entrepreneurship in the field of automation and robotics.

## 3. (e) Program Structure: B.Tech. in Automation and Robotics Engineering

	Humanities & Social Sciences						Basic Science Courses (B)				
	including Management Courses (H)	1				Course	Course		ours		
Course	Course		Hours / Week			Code	Title	_\	<u>Nee</u>		
Code	Title	·		_			Discosione Electronico martia Theorem	L	T	Р	С
241 5114045	Communicative English	L	T	P 0	3 3	21PYB101J	Physics: Electromagnetic Theory, Quantum Mechanics, Waves and Optics	3	1	2	5
21LEH1011 21LEH102T	Communicative English	2	1	U	3	21CYB101J	Chemistry	3	1	2	5
21LEH1021		-					Calculus and Linear Algebra	3	1	0	4
21LEH1031		-					Advanced Calculus and Complex Analysis		1	0	4
21LEH1041		_					Transforms and Boundary Value		•		
21LEH103T		2	1	0	3	21MAB201T	Problems	3	1	0	4
21LEH107T		-				21MAB203T	Probability and Stochastic Processes	3	1	0	4
21LEH108T		1				21BTB103T		2	0	0	2
	Philosophy of Engineering	1	0	2	2			otal	Cre	dits	
	Behavioral Psychology	2	1	0	3	-					
	Social Engineering	2	0	0	2		Professional Core Courses (C)				
		otal	_	_		Course	Course	Н	ours	:/	
						Code	Course Title	١	Nee		j
	Engineering Science Courses (S)				1	Code	Tille	L	Τ	Р	С
Course	Course		lours				Sensors and Actuators	3	0	2	4
Code	Title	\	Veel				Analog Integrated Circuits	3	0	2	4
		L	T	P	С	21EIC206J	Control Systems Design and Analysis	3	0	2	4
21MES101L		0	0	4	2		Hydraulics and Pneumatics	3	0	2	4
	Engineering Graphics and Design	0	0	4	2		Fundamentals of Industrial Robotics	2	0	2	3
21EES101T 21DCS201P		3	2	0	3	21EIC213J	PLC and HMI Programming	3	0	2	4
21CSS101J		3	0		_		Embedded System Design	2	0	4	4
21EIS204T	Industrial Data Communication	3	0	0	3		Process Control	3	0	2	4
21CSS303T	Data Science	2	0	0	2		Factory Automation	2	0	4	4
210333031		Γotal	•	•			Power Electronics and Drives	3	0	0	3
	U-2 1 A 11K	Olai	CIE	นแร	20		VFD and Servo Programming	2	0	2	3
	Open Elective Courses (O)				H		Robot Kinematics and Dynamics	3	0	0	3
	(Any 3 Courses)						Autonomous Mobile Robotics	3	0	0	3
0		T	lour	s/			Robotics for Industrial Automation	2	0	2	3
Course	Course	,	Wee	k		210302061	Artificial Intelligence	2	1	0	3
Code	Title	L	Т	Р	С			otal	Cre	aits	33
21EIO131J	Virtual Instrumentation	2	0	2	3						
	Analytical Instrumentation	3	0	0	3		Non Credit Courses (M)				
	Industrial Automation Systems	3			3	Course	Course		lours		
	Introduction to Sensors	3		0	3	Code	Title	H.	<u>Nee</u>		
	Introduction to MEMS	3		0	3	0400140414	10 ( ) 10(" 10 (	L	1	Р	С
21EIO136J	PLC for Industrial Automation	2	0	2	3		Professional Skills and Practices	0	0	2	ŀ
21EIO138T	Logical Foundations of Cyber-Physical	3	0	0	3		General Aptitude	0	0	2	ŀ
	Systems		Ļ	1		21PDM201L	Verbal Reasoning	0	0	2	0
		otal	Cre	dits	09	21PDM202L 1	Critical and Creative Thinking Skills Analytical and Logical Thinking Skills	0	0	2	
Project Wo	rk, Seminar, Internship in Industry / Hig	her '	Tecl	nnic	al		Employability Skills and Practices	0	0	2	l
	Institutions (P)						Environmental Science	1	0	0	0
Course	Course	Но	urs	/			Constitution of India	1	0	0	0
Course Code	Title	W	eek/				Universal Human Values – Introduction	1	0	0	0
				Р	С		Professional Ethics	1	0	0	0
	Community Connect		0	2	1		Universal Human Values-II:	Ť	Ť	Ť	Ť
21EIP302L 1				6	3	21LEM202T 1		2	1	0	3
21EIP303T 1				0			Human Conduct				
	Major Project				15		Indian Art Form	1	0	0	0
	Major Project			_	10		Indian Traditional Knowledge	1	0	0	0
21EIP403L				10	5		Physical and Mental Health using Yoga				
	To	otal (	cred	IITS	19		National Service Scheme	0	0	2	0
						21GNM103L	National Cadet Corps	U	U	2	U
						21GNM104L	National Sports Organization				
							T	otal	Cre	dits	03
						<u> </u>					

	Professional Elective Courses (E) (Any 6 Courses)						Professional Elective Courses (E)				
Course Code	Course Title		ours Vee T		С	Course Code	Course Title		ours Vee		С
	Sub-stream: Manufacturing	-				21EIE313T	Deep Learning Techniques	3	0	0	3
21EIE201T	Reliability and Safety Engineering	3	0	0	3	21EIE351T	Wireless Sensor Networks	3	0	0	3
21EIE203T	Fundamental of MEMS	3	0	0	3	21EIE401T	Cyber Security for Industrial Automation	3	0	0	3
21EIE251T	Bio medical Instrumentation	3	0	0	3	21EIE403T	Multisensor and Decision Systems	3	0	0	3
21EIE301T	Building Automation System	3	0	0	3	21EIE407T	Machine Vision Systems	3	0	0	3
21EIE303T	Automotive Sensors and Smart Systems	3	0	0	3	21EIE411T	Virtual and Augmented Reality	3	0	0	3
21EIE306T	Industrial Internet of Things	3	0	0	3	21EIE451J	Image Processing for Robotics	2	0	2	3
21EIE307T	Modern Control Techniques	3	0	0	3	21EIE452T	Industrial Data Communication Networks	3	0	0	3
21EIE309T	E-Vehicle Technology	3	0	0	3	21EIE455T	Robot Programming	3	0	0	3
21EIE310T	Intelligent Systems and Control	3	0	0	3	21EIE456T	Machine Learning and Data Analytics	3	0	0	3
21EIE312T	Industrial Processes and Control	3	0	0	3		To	otal (	Cre	dits	18



## 3. (f) Programme Articulation: B.Tech. in Automation and Robotics Engineering

Course Code  Course Name  Cours						P	rogra	ım Ou	tcome	s (PO	))					PSO	
Course Code  Course Name    Part   Pa	1		1	2	3				7			10	11	12	1		3
21EIC205J   Analog Integrated Circuits		Course Name	Engineering Knowledge			Conduct investigations of complex problems	Modern Tool Usage	The engineer and society	∞ర	Ethics	Individual & Team Work		& Finance		PSO-1	PSO-2	
21E1C2011   Hydraulics and Pneumatics				2			1 -	1 2	-	-	-	-	-	-	-		-
21EIC211J   Hydraulics and Pneumatics   3   2   -   -   -   -   -   2   1.3   -				1.7	-	2	-		ų, U	1	ļ	ı	1	ı		1.6	-
21EIC2121   Fundamentals of Industrial Robotics   3	21EIC206J	Control Systems Design and Analysis	2.8	-	-	2	2	7	1	e H	1	ŀ	1	ı	2.2		-
21EISQ24T   Industrial Data Communication   3				-	2	-	-	-	1	-	7	-	-	-	2	1.3	-
21EIC2313  P.C. and HMI Programming	21EIC212J	Fundamentals of Industrial Robotics		-	- 1	4	7			•	'n		-	•	-	3	1
2	21EIS204T	Industrial Data Communication	3	1.4	11- 1	-	- 1	9-	4	-	•		-	ď		1.4	-
21EIC302J   Process Control   2   2   2   2   -   -   -   -   -   -	21EIC213J	PLC and HMI Programming	3	-	2	-	3	4-7		÷		4	1	,	1.6	-	-
21EIC305P   Factory Automation   3	21EIC301P	Embedded System Design		2	3	3	-	-	4	147	3		1	-		3	-
21EIC3117   Power Electronics and Drives   3   - 2   2	21EIC302J	Process Control	2	2	2	-	-	-	-		7-1	-	-	-	2.8	-	-
21EIC3117   Power Electronics and Drives   3   - 2   2	21EIC305P	Factory Automation	3	-	2	1	-	-	-	-	7	4	-	<u>.</u> -	3	-	-
21EIC313T   Robot Kinematics and Dynamics   3   3			3		2	2	-	-	-	-	-	1	-		1.3	-	-
21EIC411T	21EIC312J	VFD and Servo Programming	3	, - , .	1		3	-	-	- 1	- 1		<b>*</b>	-	3	3	-
21EIC411T			3	3		45	5	-	-	-	-		7	-	-	2	-
21EIE201T       Reliability and Safety Engineering       2.8       -       2.2       - <t< td=""><td></td><td></td><td>3</td><td>- 3</td><td>127</td><td>2</td><td>-</td><td>T-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>-</td><td>١ -</td><td>-</td><td>3</td><td>-</td></t<>			3	- 3	127	2	-	T-	-	-	-	-	-	١ -	-	3	-
21EIE203T   Fundamental of MEMS       3       -       2       -	21EIC412J	Robotics for Industrial Automation	3	2		- 1		-	-	-	-				-	3	-
21EIE203T   Fundamental of MEMS       3       -       2       -	21EIE201T	Reliability and Safety Engineering	2.8	7127	2.2	"	- 1	435.5	1 -	-		-	-		- 1		3
21EIE301T   Building Automation System   3   - 2			3	-	2	- 1	4.20	ΠĒ.,		-	-	-			-	2	-
21EIE301T   Building Automation System   3   - 2	21EIE251T	Biomedical Instrumentation	3-	2.7	2.5	2.25		-	- 1	T- 1		-		- 1	1	-	-
21EIE303T   Automotive Sensors and Smart Systems   3   - 2.3	21EIE301T	Building Automation System	-3	-	2		-,	T	- 1	7	727	-	-	Æ.	-	3	3
21EIE306T   Industrial Internet of Things   3   -   2   -   -   -   -   -   -   -   -				1	2.3	74.7	U		L	-	٦.	-	-		1.5		
21EIE307T       Modern Control Techniques       2       -       2       2       -       -       -       -       -       3       -			3	- 1	-	2	-	30	7630		-7	-	-	-		3	
21EIE309T   E-Vehicle Technology   2			2 _	-	2		12.		125	47	1	-	-	-	3	-	-
21EIE310T   Intelligent Systems and Control   3			2	-			-		-	144	- 1	-	-	-	-	-	2
21EIE312T       Industrial Processes and Control       2.8       2       2       -       1       -       -       -       -       -       2       -<				-1-			1	-	1			-	-	-	1.8	-	
21EIE313T       Deep Learning Techniques       2.8       -       -       2.2       1       -				2	2	-	1	1.60			-	-	-	2	-	2	-
21EIE351T       Wireless Sensor Networks       3       -				-	-	2.2	1			-	-	-		-	-	-	3
21EIE401T       Cyber Security for Industrial Automation       3       -       3       -				-	NP.	-51	-	-	-	-	_	_			1	- 1	-
21EIE403T   Multisensor and Decision Systems   3			3	-	3	14	_	-	-	-	_	_	-	-	3		-
21EIE407T       Machine Vision Systems       2.8       -       3       -       1       -				-		2.2	1	-	-	-	-	7-	-				3
21EIE411T       Virtual and Augmented Reality       2       -       3       -				-	3		1	-	-	-	-	-	-6-	٧.	1	-	
21EIE451J Image Processing for Robotics       2.8       -       1.6       -				-		-	-	-	_	_		,	7-	-		-	2
21EIE455T       Robot Programming       2       -       3       -<						7.		-	_	_		-7	-	-	-	3	
21EIE456T       Machine Learning and Data Analytics       3       -       2       -				-		-30	_		_	_		7.5		-/		-	
21GNP301L Community Connect     3     2     2     -     3     -     -     3     3     -     -     1.6     1     1.6       21EIP302L Project     3     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP303T MOOC     3     2     2     -     -     -     -     2     3     -     -     1.4     1     1.8       21EIP401L / 21EIP402L     Major Project     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP403L Internship     3     2     2     -     -     -     -     3     3     2.2     1.6     1.2     1.8				_		7	-	_	_	-	_	-	7		3	T .	
21EIP302L     Project     3     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP303T     MOOC     3     2     2     -     -     -     -     1.4     1     1.8       21EIP401L / 21EIP402L     Major Project     3     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP403L     Internship     3     2     2     -     -     -     -     3     3     2.2     1.6     1.2     1.8				_	_	124	.3	_						-		1	
21EIP303T MOOC     3     2     2     -     -     -     -     2     3     -     -     1.4     1     1.8       21EIP401L / 21EIP402L     Major Project     3     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP403L Internship     3     2     2     -     -     -     -     3     3     2.2     1.6     1.2     1.8						2.5			3		3		3	2			
21EIP401L / 21EIP402L     Major Project     3     3     2     2.5     3     2.7     3     2     3     3     2     1.4     2     2       21EIP403L Internship     3     2     2     -     -     -     -     3     3     2.2     1.6     1.2     1.8							-		-								
21EIP403L Internship 3 2 2 3 3 3 2.2 1.6 1.2 1.8	21EIP401L /					2.5	3	2.7	3					2			
		Internship	3	2	2	-	_	-	_		3	3	3	2.2	1.6	1.2	1.8
						2.1	2.1	2.7	3								

### 3. (g) Implementation Plan: B.Tech. in Automation and Robotics Engineering

	Semester - I			. /			Semester - II		1	. /	1
Course	Course					Course	Course		lours		
Code	Title	<u>, V</u>			ا ـ ا	Code	Title	<u>⊢</u> \			4
		L	-					L	T	Р	_
21LEH101T			_	_	_		Chinese				
21MAB101T		3	1	0	4		French				
21PYB101J	Physics: Electromagnetic Theory,	2	1	2	5	21LEH104T	German				
ZIPIDIUIJ	Quantum Mechanics, Waves and Optics	3	1	2	0	21LEH105T	Japanese	2	1	0	
21MES102L	<sup>1</sup> Engineering Graphics and Design	0	0	4	2		Korean				
21EES101T			1	0							
1CYM101T											
1PDM101L			_		_			1	0	2	
1LEM101T		1	-	_	-			- '	U		_
ILEMITOTT		-4-1				21MAB102T		3	1	0	
		otai	Cre	นแร	10	040\/04041		1	1	2	
	Compostor III									_	
	Semester - III			,						_	
Course	Course	Course									
Code		V							0	2	
		L	Τ	Ρ	С	21MES101L 1	Basic Civil and Mechanical Workshop	0	0	4	
21MAB201T	Transforms and Boundary Value	2	1	٥	1			0	0	2	
ZIWADZUTI	Problems	3	ı	U	4						
21EIC205J <sup>2</sup>	Analog Integrated Circuits	3	0	2	4						
21EIC211J	Hydraulics and Pneumatics	3	0					- 0	0	2	
21EIC212J	Fundamentals of Industrial Robotics							+			
21EIS204T	Industrial Data Communication					ZIGINIVIIO4L		6451	C=-	al:4 a	
1PDH209T			_	-	-			otai	Cre	aits	5
21LEM201T			_				Semester - IV				
21PDM201L								l F	lour	s/	
TPDM201L	Ü	U	U	2	U						
	Universal Human Values-II:					Code	Title	Т	-	_	
21LEM202T	,	2	1	0	3	21MAR203T	Probability and Stochastic Processes	3	<u> </u>	-	_
	Human Conduct								_		
	To	otal (	Cred	dits	23						
						21EIC200J	Control Systems Design and Analysis	3	U		
	Compoter V					045100401	51.0 11.04.5	_			
	Semester - V			- /	1	21EIC213J		3	0	2	
Course				-			Professional Elective-I				
Course Code	Course		Vee	k	)	21DCS201P 1	Professional Elective-I Design Thinking and Methodology	1	2	0	
Code	Course Title	L	Vee T	k P		21DCS201P 1	Professional Elective-I  Design Thinking and Methodology  Critical and Creative Thinking Skills	1 0	2 0	0 2	
Code 21EIC301P 1	Course Title	L 2	Vee T	k P	4	21DCS201P 1	Professional Elective-I  Design Thinking and Methodology  Critical and Creative Thinking Skills	1 0	2 0	0 2	
Code 21EIC301P 1 21EIC302J	Course Title  Embedded System Design Process Control	L 2 3	Vee T 0	P 4 2	4	21DCS201P 1	Professional Elective-I  Design Thinking and Methodology  Critical and Creative Thinking Skills	1 0	2 0	0 2	
Code 21EIC301P 1 21EIC302J 21EIC313T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics	L 2 3	Vee T 0 0	P 4 2 0	4 4 3	21DCS201P 1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills	1 0	2 0	0 2	
Code 21EIC301P 1 21EIC302J 21EIC313T	Course Title  Embedded System Design Process Control	L 2 3	Vee T 0 0	P 4 2 0	4 4 3	21DCS201P 1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills	1 0 Fotal	2 0 Cre	0 2 dits	
Code 21EIC301P 1 21EIC302J	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics	L 2 3	Vee T 0 0	P 4 2 0	4 4 3 3	21DCS201P <sup>1</sup> 21PDM202L <sup>1</sup>	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills Semester - VI	1 0 Fotal	2 0 Cre	0 2 dits	
Code 21EIC301P 1 21EIC302J 21EIC313T	Course Title  Embedded System Design  Process Control  Robot Kinematics and Dynamics  Power Electronics and Drives  Professional Elective – II	L 2 3	Vee T 0 0	P 4 2 0	4 4 3 3 3	21DCS201P1 21PDM202L1 Course	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI Course	1 0 Fotal	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I	L 2 3 3 3	Vee T 0 0 0	P 4 2 0 0	4 4 3 3 3 3	21DCS201P1 21PDM202L1 Course	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI Course	1 0 Fotal	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect	2 3 3 3 0	Vee T 0 0 0 0	P 4 2 0 0 0 0 2	4 4 3 3 3 3 1	21DCS201P1 21PDM202L1 Course Code	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title	1 0 Fotal	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21GNP301L 21PDM301L	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills	2 3 3 3 0	Vee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 2 2 2	4 4 3 3 3 1 0	21DCS201P1 21PDM202L1  Course Code 21CSS303T	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science	1 0 Γotal	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC311T 21GNP301L 21PDM301L	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	1 1 1 1 1 1 1	Vee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 2 2 2 0 0	4 4 3 3 3 3 1 0 0	21DCS201P1 21PDM202L1  Course Code 21CSS303T 21EIC305P1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation	1   0	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21GNP301L 21PDM301L	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	1 1 1 1 1 1 1	Vee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 2 2 2 0 0	4 4 3 3 3 3 1 0 0	21DCS201P1 21PDM202L1  Course Code 21CSS303T 21EIC312J	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming	1   0	2 0 Cre	0 2 dits 8 / k	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21GNP301L 21PDM301L	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	1 1 1 1 1 1 1	Vee T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 2 2 2 0 0	4 4 3 3 3 3 1 0 0	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J E	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective - III	1   0	2 0 Cre	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21GNP301L 21PDM301L	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	\L 2 3 3 3 3 3 0 0 0 0 1 1 1 1 1 1 1 1 1 1 1	Hours / Week   L   T   P   C   2   10   4   4   3   0   0   0   3   3   0   0   0   1   0   0   0   0   1   0   0	0 2 dits	S						
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Code  21EIC301P 1 21EIC302J 21EIC313T 21EIC311T  21GNP301L 21PDM301L 21LEM301T  Course	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form  To Semester - VII Course	L   2   3   3   3   3   3   3   1   1   1   1	0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 0 2 2 2 0 0 dits	4 4 3 3 3 3 1 0 0	21DCS201P1 21PDM202L1  Course Code 21CSS303T 21EIC312J E E 21EIP302L1 21EIP303T1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective - III Professional Elective - IV Project MOOC	1   0   0	lours Wee	0 2 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21GNP301L 21PDM301L 21LEM301T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To	L   2   3   3   3   3   3   3   1   1   1   1	0 0 0 0 0 0 0 0 0 0 0 0	P 4 2 0 0 0 2 2 2 0 0 dits	4 4 3 3 3 3 1 0 0	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E E 21EIP302L1 21EIP303T1 O	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II	1	2	0 2 dits k P 0 4 2	S
Code  21EIC301P 1 21EIC302J 21EIC313T 21EIC311T  21GNP301L 21PDM301L 21LEM301T  Course Code	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form  To Semester - VII Course	L   2   3   3   3   3   3   3   1   1   1   1	Vee T 0 0 0 0 0 0 Cree	P 4 2 0 0 0 0 2 2 2 0 0 dits	4 4 3 3 3 1 0 0 21	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective - III Professional Elective - IV Project MOOC Open Elective - II Employability Skills and Practices	1   0   0	2 0 Cre	0 2 dits k P 0 4 2	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC311T 21GNP301L 21PDM301L 21LEM301T  Course Code 21GNH401T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester - VII Course Title Behavioral Psychology	\text{L}	Vee T 0 0 0 0 0 Cree T	P 4 2 0 0 0 0 2 2 2 0 0 dits	4 4 3 3 3 1 0 0 21	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II	1	2	0 2 dits k P 0 4 2	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC311T 21GNP301L 21PDM301L 21LEM301T Course Code 11GNH401T 21EIC411T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester - VII Course Title Behavioral Psychology Autonomous Mobile Robotics	N	0 0 0 0 0 Cree	P 4 2 0 0 0 0 2 2 2 0 0 ddits	4 4 3 3 3 1 0 0 21	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II Employability Skills and Practices Indian Traditional Knowledge	1 0 Fotal L 2 2 2 2 0 0 3 3 0 0	2   0   Cre	0 2 dits 8/ k P 0 4 2 0	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC411T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester - VII Course Title Behavioral Psychology Autonomous Mobile Robotics Robotics for Industrial Automation	N	T	P 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 3 3 3 1 0 0 21 C 3 3 3	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II Employability Skills and Practices Indian Traditional Knowledge	1	2   0   Cre	0 2 dits 8/ k P 0 4 2 0	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC411T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form  Semester - VII Course Title Behavioral Psychology Autonomous Mobile Robotics Robotics for Industrial Automation Professional Elective-V	N	0 0 0 0 0 Cree	P 4 2 0 0 0 0 2 2 2 0 0 ddits	4 4 3 3 3 1 0 0 21	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II Employability Skills and Practices Indian Traditional Knowledge	1   0	2	0 2 dits k P 0 4 2 2 0 dits	S
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Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC311T 21GNP301L 21PDM301L 21LEM301T Course Code 11GNH401T 21EIC411T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form  To Semester - VII Course Title Behavioral Psychology Autonomous Mobile Robotics Robotics for Industrial Automation Professional Elective-VI Open Elective-III	\L   2   3   3   3   3   3   3   3   3   3	Vee   T	P 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 3 3 3 1 0 0 21 C 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC305P1 21EIC312J  E 21EIP302L1 21EIP303T1  O 21PDM302L1 21LEM302T1  Course Code  21EIP401L 21EIP402L	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II Employability Skills and Practices Indian Traditional Knowledge  Semester - VIII  Course Title  Major Project Major Project	1   0   0	2	0 2 dits 6 0 4 2 2 0 dits	S
Code 21EIC301P 1 21EIC302J 21EIC313T 21EIC311T 21EIC411T	Course Title  Embedded System Design Process Control Robot Kinematics and Dynamics Power Electronics and Drives Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form  To Semester - VII Course Title Behavioral Psychology Autonomous Mobile Robotics Robotics for Industrial Automation Professional Elective-VI Open Elective-III	\L   2   3   3   3   3   3   3   3   3   3	Vee   T	P 4 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	4 4 3 3 3 1 0 0 21 C 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	21DCS201P1 21PDM202L1  Course Code  21CSS303T 21EIC305P1 21EIC312J  E 21EIP302L1 21EIP303T1 O 21PDM302L1 21LEM302T1  Course Code 21EIP401L	Professional Elective-I Design Thinking and Methodology Critical and Creative Thinking Skills  Semester - VI  Course Title  Data Science Factory Automation VFD and Servo Programming Professional Elective – III Professional Elective – IV Project MOOC Open Elective – II Employability Skills and Practices Indian Traditional Knowledge  Semester - VIII  Course Title  Major Project Internship#	1   0	2	0 2 dits k P 0 4 2 0 dits	S



# SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

Kattankulathur, Chengalpattu District 603203, Tamil Nadu, India