# **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

#### 37. B.Tech. in Electric Vehicle Technology

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

	To educate the student to become better practicing engineers to meet global excellence.
	To provide better environment through latest developments in electrical engineering involving problem solving, design, practice and training.
Mission Stmt – 3	To motivate the graduates to become a good leader, designer and researcher through industry-oriented trainings with social and ethical responsibilities.

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

( )	
PEO – 1	Graduates have the competence to proficiently apply their acquired knowledge in mathematics, basic sciences and professional courses to effectively address the complex challenges encountered in the real world.
PEO – 2	Graduates are equipped with necessary skills to continuously learn and adapt themselves to the ever-changing technology.
PEO – 3	Graduates are better employable and achieve success in the field of electric vehicle technology.
PEO – 4	Graduates will demonstrate strong communication skills, adeptness in collaborative teamwork and a deep appreciation for lifelong learning.

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

2.1		Mission Stmt.	1	Mission Stmt 2		Mission Stmt 3	
PEO - 1	-	3		2		1	
PEO - 2		2	100	3		1	
PEO - 3		2	7 1 1	2	Color.	1	
PEO - 4		1	100	Control of the state of	7.5	3	

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

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

i i			$\mathbf{r}(y_i)$	7	Pro	gram Ou	tcomes (	PO)			e pri		Prog	gram Spe	eci <mark>fic</mark>
2	1	2	3	4	5	6	7	8	9	_ 10	11	12	Outo	comes (P	(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	PS0-1	PSO-2	PSO-3
PEO - 1	3	3	3 -	1	AR	N	1	$2 \times 1$	n i		1.30%	ستالا	3	•	-
PEO - 2		- /	and the same	3	3	-	2	5		J.	MU	3	/- e	3	-
PEO - 3		3	3	-	2	3	-	3	2	-	2		2	2	-
PEO - 4	-		_	-	-	-	-	-	3	3	3	/ :	* - /	-	3

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

#### PSO – Program Specific Outcomes (PSO)

PSO - 1	Apply principles of engineering and practical skills to design, develop and validate real time electric vehicle system
PSO - 2	Ability to gain knowledge and adapt to the constantly evolving technological advancements through engaging in Multidisciplinary activities.
PSO - 3	Acquire knowledge of professional values and ethics for promoting sustainable development in the field of electric vehicle technology.

37. (e) Program Structure: B.Tech. in Electric Vehicle Technology

	Humanities & Social Sciences						Basic Science Cour				,	
	including Management Courses (H)	- 11	N1	. /		Course	Course			urs		
Course	Course		ours /eel	-		Code	Title		۷۱	/eek		_
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21LEH101T	Communicative English	2	1	0	3	21PYB101J	Quantum Mechanics, Wave		3	1	2	Ę
21LEH102T	Chinese	_		0		21CYB101J	Chemistry		3	1	2	E
	French						Calculus and Linear Algebra			1	0	4
	German						Advanced Calculus and Cor	nnlov	_	1	0	
	Japanese	2	1	0	3		Analysis	,	3	1	0	4
	Korean					21MAB209T	Transforms and Computatio	nal ,	3	1	0	4
21LEH107T	Spanish						Techniques		)	1	U	4
21LEH108T	Russian					21MAB301T	Probability and Statistics	3		1	0	4
	Philosophy of Engineering	1	0	2	2	21BTB103T	Biology	2		0	0	2
	Social Engineering	2	0	0	2			Tota	al (	Crec	lits	2
21GNH401T	Behavioral Psychology	2	1	0	3	D	l. Caminan Internation in In	- de 4   1     -     -	T	1-		-1
	T	otal (	Cre	dits	13	Project wor	k, Seminar, Internship in II Institutions (F		r ı	ecn	nıc	aı
	Engineering Science Courses (S)						,		Ηοι	ırs /		
Course	Course		our			Course	Course			ek		
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		<u>L</u>	T	Р	С	21GNP301L	1 Community Connect	0	0	_	2	1
	Basic Civil and Mechanical Workshop	0	0	4	2	21EVP302L		0	0	_	6	
	Engineering Graphics and Design	0	0	4	2	21EVP303T		3	0	_	0	3
	Electrical and Electronics Engineering	3	1	0	4	21EVP401L	Major Project	0	0	3	30	15
	Programming for Problem Solving	3	0	2	4	21EVP402L	Major Project	0	0		20	10
	Engineering Mechanics	3	2	0	3	21EVP403L	Internship#	0	0	1	0	5
	Design Thinking and Methodology  Data Science	2	0	0	2			Tota	I C	redi	its	19
210303031		otal	۰	_	21		The die					
		o.u.	0.0	4110			Non Credit Course	es (M)				
1	Professional Core Courses (C)	<u> </u>		- /		Course	Course			ours		
Course	Course		our: Vee			Code	Title		V	Veel		ļ
Code	Title	1	T	P	С				L	Τ	Р	C
21CSC206T	Artificial Intelligence	2	1	0	3		Professional Skills and Prac		0	0	2	
	Electromechanical Energy Conversion	2	0	2	3		General Aptitude		0	0	2	-
	Analog and Digital Electronics	3	0	2	4		Verbal Reasoning		0	0	2	(
	Vehicular Sensor Actuators and Controls	3	0	0	3		Critical and Creative Thinkin		0	0	2	ł
	Automotive Engineering Systems	3	0	0	3		Analytical and Logical Think		0	0	2	ł
	Power Electronics	2	0	2	3		Employability Skills and Pra Environmental Science		1	0	0	(
21EVC206T	Electric Vehicle Architecture	3	0	0	3		Constitution of India		1	0	0	(
21EVC207T	Embedded System and Communication	3	0	0	3		Universal Human Values –		1	0	0	(
	Protocols						Professional Ethics		1	0	0	(
	Electric Vehicle Design	3	_		4	Z T Z Z T Z T T T T T T T T T T T T T T	Universal Human Values-II:		•	Ŭ	Ŭ	ľ
21EVC301.1	Kinematics and Dynamics of Automobile	3	0	2	4	21LEM202T 1	Understanding Harmony an	150		1	0	3
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21EVC302J	Electrical Drives and Control	2	0	2	3		Human Conduct	a Etnicai	2	′		ш.
21EVC302J 21EVC303T	Electric Vehicle Charging Technology	3	0	0	3	21LEM301T <sup>1</sup>	Human Conduct Indian Art Form		2	0	0	(
21EVC302J 21EVC303T 21EVC304J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles	3	0	2 0 2	3 4	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg	e			0	-
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21EVC302J 21EVC303T 21EVC304J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing	3	0 0 0	2 0 2 2	3 3 4 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme	e using Yoga	1	0	0	(
21EVC302J 21EVC303T 21EVC304J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing	3 3 2	0 0 0	2 0 2 2	3 3 4 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga		0		(
21EVC302J 21EVC303T 21EVC304J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing T	3 3 2 otal	0 0 0 Cre	2 0 2 2 2 dits	3 3 4 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme	e using Yoga	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)	3 3 2 otal	0 0 0 Cre	2 0 2 2 dits	3 3 4 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course	3 3 2 otal	0 0 0 Cre	2 0 2 2 dits	3 4 3 46	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J Course Code	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title	3 3 2 otal	0 0 0 Cree	2   0   2   2   dits	3 3 4 3 46	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J Course Code 21EEO301T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility	3 3 2 otal	0 0 0 0 Cre	2   0   2   2   dits   F   0	3 3 4 3 46 C 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J Course Code 21EEO301T 21EEO302T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology	3 3 2 otal	O O Cree	2	3 4 3 46 C C 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J Course Code 21EE0301T 21EE0302T 21EE0303T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management	3 3 2 otal H V L 3 3 3	0 0 0 0 Cree	2	3 3 4 3 46 C C 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J Course Code 21EE0301T 21EE0303T 21EE0304T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices	3   3   2   2   otal   H   V   L   3   3   3   3   3   3   3   3   3	0 0 0 0 Cree	2	3 4 3 46 C C 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J Course Code 21EEO301T 21EEO302T 21EEO304T 21EEO304T 21EEO305T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices Surveillance Technology	3 3 2 ootal H V L 3 3 3 3	0 0 0 0 Cree T 0 0 0	2	3 3 4 3 46 C C 3 3 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J Course Code 21EEO301T 21EEO302T 21EEO304T 21EEO305T 21EEO306T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices Surveillance Technology Sustainable Development Practices	3   3   2   2	0 0 0 0 Cree	2	3 3 4 3 46 C C 3 3 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J Course Code 21EEO301T 21EEO302T 21EEO304T 21EEO306T 21EEO307T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices Surveillance Technology Sustainable Development Practices Clean and Green Energy	H V L 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 Cree	2	3 3 4 3 46 C C 3 3 3 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(
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21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J 21EVC305J 21EEO301T 21EEO302T 21EEO304T 21EEO306T 21EEO307T 21EEO308T 21EEO309T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices Surveillance Technology Sustainable Development Practices Clean and Green Energy Smart Cities and Communities Electrical Trading	3 3 2 otal H V L 3 3 3 3 3 3 3 3 3 3	0 0 0 0 Cres Veee T 0 0 0 0 0 0	2	3 3 4 3 46 C C 3 3 3 3 3 3 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	0
21EVC302J 21EVC303T 21EVC304J 21EVC305J 21EVC305J 21EVC305J 21EEO301T 21EEO302T 21EEO304T 21EEO306T 21EEO307T 21EEO308T	Electric Vehicle Charging Technology Autonomous and Connected Vehicles Vehicle Integration and Testing  T  Open Elective Courses (O) Any 3 courses)  Course Title  E-mobility Wearable Technology E-waste Management Energy Efficient Practices Surveillance Technology Sustainable Development Practices Clean and Green Energy Smart Cities and Communities Electrical Trading Unmanned Aerial Vehicle	H V L 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 0 0 0 0 Cree T 0 0 0 0 0 0 0	2	3 3 4 3 46 C C 3 3 3 3 3 3 3 3 3 3 3 3 3 3	21LEM301T <sup>1</sup> 21LEM302T <sup>1</sup> 21GNM101L <sup>1</sup> 21GNM102L <sup>1</sup> 21GNM103L <sup>1</sup> 21GNM104L <sup>1</sup>	Human Conduct Indian Art Form Indian Traditional Knowledg Physical and Mental Health National Service Scheme National Cadet Corps	e using Yoga n	1 1 0	0 0	2	(

	Professional Elective Courses (E) (Any 8 courses)						Professional Elective Courses (E)				
Course Code	Course Title		ours Vee			Course Code	Course Title		lours Nee		
Code	Title	L	Т	Ρ	С	Code	Tiue	L	Т	Р	С
21EVE301T	Advanced Energy Sources	3	0	0	3	21EVE404T	EV Product Development Processes	3	0	0	3
21EVE302J	Vehicle Electronic Systems	2	0	2	3	21EVE405T	Trends in Vehicle Styling and Ergonomics	3	0	0	3
21EVE303T	Battery Technologies	3	0	0	3	21EVE406T	EV Regulations and Policy Framework	3	0	0	3
21EVE304T	Techno-economic Analysis of Electric Vehicles	3	0	0	3	21EVE407T	e-Mobility Ecosystem and Deployment Practices	3	0	0	3
21EVE305T	Automotive Materials and Manufacturing	3	0	0	3	21EVE408P 1	Electric Vehicles Testing and Certification	1	0	4	3
	Processes	L.	Ů	Ľ	Ů	21EVE409T	Automotive Interfaces, Fault Diagnostics	3	0	0	3
	Battery Management Systems	3	0	0	3		and Security		Ľ		Ŭ
21EVE307T	Advanced Power Electronics	3	0	0	3	21EVE410T	Industrial Automation and IoT	3	0	0	3
21EVE308J	Electric Vehicle Powertrain	2	0	2	3	21EVE411T	Machine Vision	3	0	0	3
21EVE309J	Energy Storage Systems for Electric	2	0	2	3	21EVE412T	Machine Design and Mechanics	3	0	0	3
21EVE3093	Vehicle	2	U	2	J	21EVE413T	Hyperloop Technology	3	0	0	3
21EVE401T	Fuel Cell Electric Vehicles and Hydrogen	3	0	0	3	21EVE414T	Power systems and Microgrid	3	0	0	3
216464011	Technology	J	U	0	J	21EVE415T	Electric Vehicle Safety and Practices	3	0	0	3
21EVE402T	Electric Vehicles Thermal Design and Management	3	0	0	3		T T	otal	Cre	dits	24
21EVE403T	Vehicle Troubleshooting and Maintenance	3	0	0	3						



## 37. (f) Programme Articulation: B.Tech. in Electric Vehicle Technology

					P	rogra	m Ou	tcome	es (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	ndividual & Team Work	Communication	Project Mgt. & Finance	ife Long Learning	PSO-1	PSO-2	PSO-3
21EVC201J	Electromechanical Energy Conversion	<u>ш</u>	3	S D	28	<u>≥</u>	È	ū	ш	드	ŏ	<u>P</u>	ڌ	1.4	ď	ď
	Analog and Digital Electronics	3	3	2		1		-	-	-	-	-	-	1.4	-	_
21EVC2023	Vehicular Sensor Actuators and Controls	3	2.4	3	2	-		_	- - 47 .	-		_		2	2	_
	Automotive Engineering Systems	3	1.4	-	-	_	_	_	-	-	_	_	_	1	-	_
	Power Electronics	3	2.6	3	- 1	1.8	-	_	_	-		_	2	3	_	_
	Electric Vehicle Architecture	3	2.75		- 1	-			-	-	-	-	Ē	2	1	-
	Embedded System and Communication	3		74			- 3	4								
21EVC207T	Protocols	3	2	-	-	-		-4	70.	-	-	-		3	-	-
21EVC208J	Electric Vehicle Design	3	3	3	-	-	-	-	- F	-	-	-	-	2	1	-
21EVC301J	Kinematics and Dynamics of Automobile	3	3	-	-		-		-	-		-	-	1	-	-
21EVC302J	Electrical Drives and Control	3	1.4	-, <b>t</b> .	<b>.</b>	2	-	-	<b>b.</b>	-	#	<b>}</b>	- 1	2	- 1,	-
	Electric Vehicle Charging Technology	3	2		- , ",	-4-7	-	2	1.67	-	Τ,		-	2	1	1.667
	Autonomous and Connected Vehicles	3	1	-	45	2	-	-	-		- 🔻	Š	-	2	-	-
	Vehicle Integration and Testing	3	3	277	7	•	ŀ	-	2	-	· 1		-	2	-	2
	Advanced Energy Sources	3-	2.5	4.5				3	-	-	h-	ξ	4	-		2
	Vehicle Electronics Systems	3	1.5	-	- '	- 1	1	5.4	2	-	-	-	-	1		-
2 <mark>1EVE303</mark> T	Battery Technologies	3		-	-	2		4-	1.67	Э.	-	- 9		1.5	1	2
21EVE304T	Techno-Economic Analysis of Electric Vehicle	3	2	M		-	1	1.	2	Ų.	3	1	7	1	1	
21EVE305T	Automotive Materials and Manufacturing Processes	3	2		177	2	10		, e	-4	d	-		1	1	-
	Battery Management Systems	3	2	140	-	2	Š.	4	161		-	-	-	-	-	÷
	Advanced Power Electronics	3	2		-	-			121	5	<i>-</i>	-	-	-	-	٠.
21EVE308J	Electric Vehicle Powertrain	3	2	-3	-	2	-		150		-	-	-	2	-	-
21EVE309J	Energy Storage Systems for Electric Vehicle	3	1		-	2	12	2	2	-	-	1-	-	7 -	-	2
2 <mark>1EVE40</mark> 1T	Fuel Cell Electric Vehicles and Hydrogen Technology	3	1	H	字	2	-	2	2	-	-/	- 1	-	1.667	- :	2
21 <mark>EVE402T</mark>	Electric Vehicles Thermal Design and Management	3	1.33	16	-	-	-	-	-	-	/-		Ţ	1		j÷
	Vehicle Troubleshooting and Maintenance	3		-21		2.6	-	-	-	- 1	-	7-	-	1	-	-
	EV Product Development Processes	3	1.67	F.	-		1	-	2		ر - ر	1	-	1.75	-	-
	Trends in Vehicle Styling and Ergonomics	3	1	-		1.67	-	-	1	-	77-5		1	-	-	-
21EVE406T	EV Regulations and Policy Framework	3	-	F	T		-	2	3	-	-		-		-	1
21EVE407T	e-Mobility Ecosystem and Deployment Practices	3	-	L,	E,/	H	-	1	2.5	F)	F	7		1	-	1.5
21EVE408P	Electric Vehicles Testing and Certification	3	3	3	-3-	3	3	3	3	3	- 3	3	2	3	3	1
21EVE409T	Auto <mark>motive Interfa</mark> ces, fault Diagnostics and Security	3	-	-	-	2	1	-	2	-	4	-		-	-	-
	Industrial Automation and IoT	3	-	-	-	2	-	-	2	-	77	-	-	-	-	-
	Machine Vision	3	-	-	-	2.4	-	-11	-	<b>B</b> T		-	-	2	-	1
	Machine design and Mechanics	3	3	-	-	-	-	= 1		-		-	-	1	-	-
	Hyperloop Technology	3	2	1	-		1	1	2		-	-	-	-	-	1
	Power systems and Microgrid	3	1.5			-	-	1	1	-	-	-	-	1	-	1.5
	Electric Vehicle Safety and Practices	3	-	-	-	-	-	-	3	-	-	-	-	-	-	-
	Community Connect	-	-	-	-	3	<u> </u>	3	3	2	-	-	-	-	-	-
	Project	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
21EVP303T		3	2	-	-	-	-	-	-	-	-	-	-	3	-	-
	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
21EVP403L	Internship#	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Programme Average	<u> </u>	<u> </u>	<u> </u>	l		<u> </u>							l	l	

37. (g) Implementation Plan: B.Tech. in Electric Vehicle Technology

	Semester – I						Semester – II			
0		Н	ours	<i>i</i> /		0		Н	lours	<i>i</i> /
Course	Course	٧	Veel	k		Course	Course	١	Nee	k
Code	Title	L	Τ	Р	С	Code	Title	L	Τ	Р
21LEH101T		2	1	0	3	21LEH102T	Chinese			
21MAB101T	Calculus and Linear Algebra	3	1	0	4	21LEH103T	French			
	Physics: Electromagnetic Theory,					21LEH104T	German			
21PYB101J	Quantum Mechanics, Waves and	3	1	2	5	21LEH105T	Japanese	2	1	0
	Optics					21LEH106T				
21MES102L	<sup>1</sup> Engineering Graphics and Design	0	0	4	2	21LEH107T				
21EES101T	Electrical and Electronics Engineering	3	1	0	4	21LEH108T				
21CYM101T	1 Environmental Science	1	0	0	0	21GNH101J		1	0	2
	Professional Skills and Practices	0	0	2	0		Advanced Calculus and Complex			
21LEM101T		1	0	0	0	21MAB102T	Analysis	3	1	0
		otal	Cred	dits	18	21CYB101J		3	1	2
	Semester – III					21MES101T		3	1	0
	Semester – III	Г⊔	ours	. /		21CSS101J		3	0	2
Course	Course					21BTB103T		2	0	0
Code	Title	٧	Veel T		С	21MES101L		0	0	4
	T ( 10 1" 1	ᆫ	ı	Р	U	21PDM102L		0	0	2
	Transforms and Computational	3	1	0	4	21GNM101L		-	U	
	Techniques	_	0	^		21GNM101L		-		
	Social Engineering	2	0	0	2	21GNM103L		0	0	2
	Electromechanical Energy Conversion	2	0	2	3					
	Analog and Digital Electronics	3	0	2	4	21GNM104L		-4-1	0	
	Vehicular Sensor Actuators and Controls	3	0	0	3			otal	Cred	JITS
	Automotive Engineering Systems	3	0	0	3		Semester – IV			
	Professional Ethics	1	0	0	0	Course	Course		lours	
	Verbal Reasoning	0	0	2	0	Code	Title	\	Nee	k
	Universal Human Values-II:							L	Τ	Р
21LEM202T <sup>1</sup>	Understanding Harmony and Ethical	2	1	0	3	21MAB301T	Probability and Statistics	3	1	0
	Human Conduct					21CSC206T	Artificial Intelligence	2	1	0
	T <sub>0</sub>	otal	Cre	dits	22		Power Electronics	2	0	2
	Samastar V			-		21EVC206T	Electric Vehicle Architecture	3	0	0
	Semester – V			. /			Embedded System and Communication		^	^
Course	Course		ours Veel			21EVC207T	Protocols	3	0	0
	T:0		VEDI							
Code	Title	٠,			_	21EVC208J	Electric Vehicle Design	3	0	2
Code		L	Τ	Р	С		Electric Vehicle Design Design Thinking and Methodology	3	0	2
Code 21EVC301J	Kinematics and Dynamics of Automobile	L 3	T 0	P 2	4	21DCS201P 1	Design Thinking and Methodology	3 1 0	2	0
Code 21EVC301J 21EVC302J	Kinematics and Dynamics of Automobile Electrical Drives and Control	3 2	T 0	P 2 2	4	21DCS201P 1	Design Thinking and Methodology Critical and Creative Thinking Skills	1	2	0
Code 21EVC301J 21EVC302J 21EVC303T	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology	L 3	T 0	P 2	3 3	21DCS201P 1	Design Thinking and Methodology Critical and Creative Thinking Skills	1	2	0
Code 21EVC301J 21EVC302J 21EVC303T E	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I	3 2	T 0	P 2 2	4 3 3	21DCS201P 1	Design Thinking and Methodology Critical and Creative Thinking Skills	1	2	0
Code 21EVC301J 21EVC302J 21EVC303T E E	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II	3 2	T 0	P 2 2	4 3 3 3 3	21DCS201P <sup>1</sup> 21PDM202L <sup>1</sup>	Design Thinking and Methodology Critical and Creative Thinking Skills T Semester – VI	1 0 otal	2	0 2 dits
Code 21EVC301J 21EVC302J 21EVC303T E E O	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I	3 2 3	T 0 0 0 0	P 2 2 0	4 3 3 3 3 3	21DCS201P 1 21PDM202L 1 Course	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course	1 0 otal	2 O Cred	0 2 dits
Code  21EVC301J  21EVC302J  21EVC303T  E  C  0  21GNP301L 1	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect	3 2 3 0	T 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	P 2 2 0 0 2 2	4 3 3 3 3 1	21DCS201P 1 21PDM202L 1 Course Code	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title	otal H	2 0 Cred	0 2 dits
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Code  21EVC301J  21EVC302J  21EVC303T  E  O  21GNP301L 1  21PDM301L 1	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	3 2 3 0 0	T 0 0 0 0 0 0 0	P 2 2 0 0 2 2 2 0 0	3 3 3 3 1 0	21DCS201P 1 21PDM202L 1 Course Code 21CSS303T	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title	1 0 otal	2 0 Cred ours Nee	0 2 dits
Code  21EVC301J  21EVC302J  21EVC303T  E  O  21GNP301L 1  21PDM301L 1	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	2 3 0 0	T 0 0 0 0 0 0 0	P 2 2 0 0 2 2 2 0 0	3 3 3 3 1 0	21DCS201P 1 21PDM202L 1 Course Code 21CSS303T 21EVC304J	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title  Data Science Autonomous and Connected Vehicles	otal H	Oursell T	0 2 dits 6/ k
Code  21EVC301J  21EVC302J  21EVC303T  E  O  21GNP301L 1  21PDM301L 1	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	3 2 3 0 0	T 0 0 0 0 0 0 0	P 2 2 0 0 2 2 2 0 0	3 3 3 3 1 0	21DCS201P 1 21PDM202L 1 Course Code 21CSS303T 21EVC304J 21EVC305J	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title  Data Science Autonomous and Connected Vehicles Vehicle Integration and Testing	1 0 otal H \ L 2	Ourse Veel T 0 0	0 2 dits k P 0 2
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Code  21EVC301J  21EVC302J  21EVC303T  E  O  21GNP301L 1  21PDM301L 1	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form	L 3 2 3 3 0 0 0 1 1 otal (	0 0 0 0 0 0 0 0 0 0 0	P 2 2 0 0 2 2 0 ddits	3 3 3 3 1 0	21DCS201P 1 21PDM202L 1 Course Code 21CSS303T 21EVC304J 21EVC305J E	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title  Data Science Autonomous and Connected Vehicles Vehicle Integration and Testing Professional Elective – III Professional Elective – IV	1 0 otal H \ L 2	Ourse Veel T 0 0	0 2 dits k P 0 2
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Code  21EVC301J 21EVC302J 21EVC303T E E O 21GNP301L 21EM301L 1 21LEM301T Course Code	Kinematics and Dynamics of Automobile Electrical Drives and Control Electric Vehicle Charging Technology Professional Elective – I Professional Elective – II Open Elective – I Community Connect Analytical and Logical Thinking Skills Indian Art Form To Semester – VII Course Title	0 0 1 0 1 V	T 0 0 0 0 0 Cree ours	2 2 0 2 2 0 dits	4 3 3 3 3 1 0 0 20	21DCS201P 1 21PDM202L 1  Course Code  21CSS303T 21EVC304J 21EVC305J E 0 21EVP302L 1	Design Thinking and Methodology Critical and Creative Thinking Skills  T  Semester – VI  Course Title  Data Science Autonomous and Connected Vehicles Vehicle Integration and Testing Professional Elective – III Professional Elective – IV  Open Elective – II Project	1 0 0 otal H \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	2 0 Creco	0 2 dits s/ k P 0 2 2
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# SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

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

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