

NMAM Institute of Technology, Nitte An off-Campus Institution of NITTE (Deemed to be University) MANGALORE B.Tech (Minors) : Scheme of Teaching and Examinations 2022-26 Outcome Based Education (OBE) and Choice Based Credit System (CBCS) (Effective from the academic year 2022 - 23)

			Minors in Elec	tric Vehic	les								
					Теас	hing H	ours /\	Veek		Exami	nation		
SI. No	Course Type	Course Code	Course Title	Teaching Department	Lecture	Tutorial	Practical/ Drawing	Self Studv/PBL	Duration in hours	CIE Marks	SEE Marks	Total	Credits
					L	Т	Р	J					
1	PCC	EE2105-1	Introduction to Hybrid Electric Vehicles	EE	3	0	0	0	3	50	50	100	3
2	PCC	EE2106-1	Battery Management Systems	EE	3	0	0	0	3	50	50	100	3
3	PCC	EE3103-1	Thermal Management of Electric Vehicles	EE	3	0	0	0	3	50	50	100	3
4	PCC	EE2107-1	Automotive Electronic Systems	EE	3	0	0	0	3	50	50	100	3
5	PCC	EE3104-1	Vehicle Dynamics	EE	3	0	0	0	3	50	50	100	3
6	PCC	EE3105-1	Fundamental of Automotive Security	EE	3	0	0	0	3	50	50	100	3
				Total	18	0	0	0	18	300	300	600	18



Course Code:	EE2105-1	Course Type	PCC
Teaching Hours/Week (L: T: P: S)	3:0:0:0	Credits	03
Total Teaching Hours	40	CIE + SEE Marks	50+50
	ent: Electrical &	Electronics Engineering	
Course Objectives:			
To understand the fundamental	s of electric and h	vhrid electric vehicles FV	nolicies
1. standards and EV architecture.			policies,
2. To understand control strategies	and design prine	ciples of series hybrid veh	icle drive train.
3. To know the design principles &			
^{5.} train			
4. To study the control principles c		electric vehicles	
	UNIT-I		
Electric Vehicles			06 Hours
Configurations of electric vehicles (EVs),	Performance of E	SVs, Tractive Effort in Norn	nal Driving, Energy
Consumption. EV Policies & Standards Hybrid Electric Vehicles			08 Hours
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Concept of Hybrid Electric Drive Trains	Architectures of	t Hybrid Electric Drive Tr	
, ,		f Hybrid Electric Drive Tra	anis, Series Hybrid
Concept of Hybrid Electric Drive Trains Electric Drive Trains, Parallel Hybrid Elec		f Hybrid Electric Drive Tra	
Concept of Hybrid Electric Drive Trains Electric Drive Trains, Parallel Hybrid Elec		f Hybrid Electric Drive Tra	
	tric Drive Trains	·	10 Hours
Electric Drive Trains, Parallel Hybrid Elec	tric Drive Trains UNIT-II ectric Drive Train	1	10 Hours
Electric Drive Trains, Parallel Hybrid Elec Series (Electrical Coupling) Hybrid Elec	tric Drive Trains UNIT-II ectric Drive Train	1	10 Hours
Electric Drive Trains, Parallel Hybrid Elec Series (Electrical Coupling) Hybrid Elec Operation Patterns, Control Strategies, I Train, Design Example	UNIT-II UNIT-II ectric Drive Trair Design Principles	n of a Series (Electrical Cou	10 Hours oling) Hybrid Drive
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Electric Drive Trains, Parallel Hybrid Electric Drive Trains, Parallel Hybrid Electrical Coupling) Hybrid Electrician Patterns, Control Strategies, I Train, Design Example Parallel (Mechanically Coupled) Hybrid Drive Train Configuration and Design Train Series–Parallel (Torque and Speed Condition Drive Train Configuration, Drive Train Configur	UNIT-II ectric Drive Trains UNIT-II ectric Drive Train Design Principles id Electric Drive Objectives, Contr UNIT-III oupling) Hybrid I ontrol Methodolo rgy Management ourse student will ectric vehicles to vbrid electric vehic	of a Series (Electrical Coup Train ol Strategies, Parametric Drive Train ogy, Drive Train Parameter Strategy, Energy Storage be able to understand EV architectur cles to understand EV architectur	10 Hours oling) Hybrid Drive 06 Hours Design of a Drive 05 Hours rs Design 05 Hours Design.
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Course	e Outcomes Mapping with Prog	ram	Out	tcon	nes a	ይ PS	50						
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	Program Outcomes→	1	2	3	4	5	6	7	8	9	10	11	12
	↓ Course Outcomes												
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	EE2105-1.3	2	3	-	-	-	-	-	-	-	-	-	-
	EE2105-1.4	2	3	-	-	-	-	-	-	-	-	-	-
	EE2105-1.5	3	-	-	-	-	-	-	-	-	-	-	-
									1	1: Lo	ow 2:	Med	lium 3: Hig
TEXTB	BOOKS:												
1.	Mehrdad Ehsani, Yimin Gao, A	li E	mad	i, "N	1ode	ern l	Elect	tric,	Hyb	orid	Elect	ric, a	nd Fuel C
	Vehicles", CRC Press, 2010.								-				
REFER	ENCE BOOKS:												
1.	Tom Denton, "Electric and Hybrid	d Ele	ectri	c Vel	nicle	s", s	ecor	nd e	ditio	n, Ir	stitut	te of	motor
	Industry, 2 nd edition, 2020.												
E Bool	ks / MOOCs/ NPTEL												
1.	https://nptel.ac.in/courses/10810	0617	70										



	BATTER			
Cou	ırse Code:	EE2106-1	Course Type:	PCC
	ching Hours/Week (L: T: P:S):	3:0:0:0	Credits:	03
	al Teaching Hours:	40+0+0	CIE + SEE Marks:	50+50
• -		ent: Electrical & Elect		
Cour	se Objectives:			
1.		atteries for Electric ve	hicle.	
2.				
3.	5, 5, 5			
4.	To understand functional blocks			
5.	, , , , , , , , , , , , , , , , , , , ,			
6.	To introduce hardware implement	ntation of BMS]
		UNIT-I		
	ery Management System parts			05 Hours
	Power Module (PM), The battery, Th	ne DC/DC converter, le	oad, communication chann	iel, Examples
	ittery Management Systems.			
	c information on batteries	D. H	···· C ······	06 Hours
of bat	ery systems, Definitions Battery desi atteries	ign, Battery characteri	stics, General operational i	
Lithic	um-Ion Battery Fundamentals			04 Hours
	—			-
Batter	ery Operation, Battery Construct	tion, Battery Chemi	stry, Safety Longevity, F	^v erformance,
Batter	ery Operation, Battery Construct gration	tion, Battery Chemi	stry, Safety Longevity, F	Performance,
Batter			stry, Safety Longevity, F	Performance,
Batter Integr	ration	tion, Battery Chemis UNIT-II	stry, Safety Longevity, F	
Batter Integr Meas	surement of battery parameters	UNIT-II		05 Hours
Batter Integr Meas Cell V	surement of battery parameters Voltage Measurement, Current Me	UNIT-II easurement, Current	Sensors Current Sense Me	05 Hours easurements,
Batter Integr Meas Cell V Synch	surement of battery parameters Voltage Measurement, Current Me hronization of Current and Voltage	UNIT-II easurement, Current 2 e, Temperature Measu	Sensors Current Sense Me	05 Hours easurements,
Batter Integr Meas Cell V Synch Batter	surement of battery parameters Voltage Measurement, Current Me hronization of Current and Voltage ery Management, System Performar	UNIT-II easurement, Current e, Temperature Measu nce	Sensors Current Sense Me	05 Hours easurements,
Batter Integr Meas Cell V Synch Batter Batte	surement of battery parameters Voltage Measurement, Current Me hronization of Current and Voltage	UNIT-II easurement, Current e, Temperature Measu nce mality	Sensors Current Sense Me urement, Measurement Unc	05 Hours easurements, certainty and 03 Hours
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	ırse Code:	EE3103-1	Course Type	PCC
Tea	ching Hours/Week (L: T: P: S)	3:0:0:0	Credits	03
	al Teaching Hours	40	CIE + SEE Marks	50+50
	Teaching Departme	nt: Electrical &	Electronics Engineeri	ng
Cour	se Objectives:			
1.	To study semiconductor technolog	gy and the impo	ortance of thermal man	agement
2.	To understand and derive equival	ent thermal resi	stance network	
3.	· · · · ·			
4.	To comprehend advanced cooling	y technologies ir	n electronic equipment	
5.	To describe importance and speci	fications of mici	roelectronics packages	
	· · ·			
		UNIT-I		
ntro	duction to thermal management			05 Hours
Semi	conductor Technology Trends, Tem	perature Deper	ndent Electrical Failure	s, Importance of Hea
	sfer in Electronics, Thermal Design Pr			
[her	mal Resistance Network			10 Hours
	mal Resistance Concept, Series Th		-	
Vetw	ork, Thermal Contact Resistance, I	nterface Materi	als, Spreading Therma	al Resistance, Therma
<u>Resis</u>	tance of Printed Circuit Boards (PCB	s)		
		UNIT-II		
	and Heat Sinks			07 Hours
in E	quation; Fin Thermal Resistance, Eff		,	ariable Cross Sections
Fin Eo Heat	quation; Fin Thermal Resistance, Eff Sink Thermal Resistance, Effectivene		,	ariable Cross Sections uring Processes
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	Program Outcomes→	1	2	3	4	5	6	7	8	9	10	11	12	
	↓ Course Outcomes													
	EE3103-1.1	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3103-1.2	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3103-1.3	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3103-1.4	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3103-1.5	3	2	-	-	-	-	-	-	-	-	-	-	
										1:	Low	2: M	ediu	m 3: High
TEXTB	BOOKS:													
1.	Younes Shabany,"Heat Transfer: 1	her	mal	Man	age	men	t of	Elec	tron	ics"	2010	, CR	C Pre	SS.
REFER	ENCE BOOKS:													
1.	Jerry Sergent, Al Krum, "Thermal M	/Jana	ager	nent	Har	ndbo	ook:	For	Elect	ron	ic Ass	embl	ies H	ardcover",
	1998, Mc Graw- Hill.													
2.	"Vehicle thermal Management S	yste	ms (Conf	eren	ice F	Proc	eedi	ngs'	', 1s	t Edit	tion;	2013,	Coventry
	Techno centre, UK													
3.	T. Yomi Obidi, "Thermal Manager	nent	t in /	Auto	mot	ive a	appl	icati	ons"	, 20	15, S/	AE Int	terna	tional.



ΑυτοΜ	οτιν	E ELE	CTRON		YSTE	MS					
Course Code:		EE210)7_1	C	ours	e Type				РСС	
Teaching Hours/Week (L: T: P: S)		3:0:0:			redit					03	
Total Teaching Hours		40+0				SEE Ma	arks			50+	50
Teaching Departm								na			
Course Objectives:						- 3		<u> </u>			
1. Understand various aspects of e	electro	onic s	/stem i	n veł	nicle (control					
2. Familiarized with various sensor											
3. Comprehend the communication	n prc	tocol	used ir	n veh	icle.						
4. Understand concepts of AUTOS	AR.										
5. Know the data processing and r	nemc	ory ma	nagem	nent s	syste	n					
		UN	IT-I								
Electrical and Electronic Systems in t	he Ve	ehicle								07	Hours
Overview, Motoronic-engine manager	nent	syste	m, Elec	troni	ic die	sel coi	ntrol,	Ligh	nting	tech	nology
electronic stability program, adaptive c	ruise	contr	ol, Infot	tainn	nent S	System	,			T	
Automotive Sensors & Measuring Pr											Hours
Air Flow Rate Sensor, Engine Cranksł		9					,				
Sensor, Hall-Effect Position Sensor, (0	
Temperature Sensors, Exhaust Gas C	xygei	n Ser	sor, Kr	nock	Sens	ors, A	utomo	otive	e Eng	gine	Contro
Actuators.											
		UN	IT-II								
In Vehicle Networking										07	Hours
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	cle bu	uses. (Overvie	w of	CAN	I, LIN,	Flex R	Ray,	MOS	1	
Need for In-vehicle Networking, Vehic Vehicular ad hoc networks (VANETs).	cle bu	ises. (Overvie	w of	CAN	I, LIN,	Flex R	Ray,	MOS	ST pro	otocols
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TEXTB	BOOKS:
1.	Robert Bosch GmbH, "Bosch Automotive Electrics and Automotive Electronics", 5th Edition.
	John Wiley & Sons Ltd, 2007
2.	William B. Ribbens "Understanding Automotive Electronics", 6th Edition, Elsevier, 2003
3.	Tom Denton, "Automobile Electrical and Electronic Systems", 3rd Edition, Elsevier
	Butterworth-Heinemann Publication, 2004.
4.	KPIT Technologies Ltd. "KPIT-AUTOSAR Handbook", https://www.kpit.
	com/resources/downloads/kpit-autosar-handbook.pdf
REFER	ENCE BOOKS:
1.	Nicolas Navet and Françoise Simonot-Lion, "Automotive Embedded Systems Handbook",
	CRC Press, 2009.



Course Code:	EE3104-1	Course Type	PCC
Teaching Hours/Week (L: T: P: S)	3:0:0:0	Credits	03
Total Teaching Hours	40+0+0	CIE + SEE Marks	50+50
Teaching Departme	ent: Electrical &	Electronics Engineering	
ourse Objectives:			
1. Understand the dynamics of veh			
2. Present a problem oriented in c			
3. Address the underlying concep			
4. Calculate and refer the loads ar			
5. Analyse the behaviour of the ve	ehicles under acce	leration, ride and braking	
Basics of Vehicle Dynamics	UNIT-I		07 Hours
History, vehicle classifications, fundame	ental annroaches	to vehicle dynamics mode	
axis system, Forces & moments affectir		-	-
Equations of motion, transmission char			
Acceleration Performance:	·		08 Hours
Power train components; power and tra	action limited acce	leration; transverse weight	t shift; front whee
drive vs rear wheel drive vs. all-wheel d	rive vehicles		
	UNIT-II		
Braking Performance:			10 Hours
Braking force analysis; brake design and	analysis: tederal	rediliation on prakind pert	ormance: antiloc
	-		
braking system; wheel lock-up; tire/roa	-		
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency	-		braking, Brake
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads	d friction; safety a	nd maintenance issues in	
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads	d friction; safety a	nd maintenance issues in	braking, Brake
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads	d friction; safety a	nd maintenance issues in	braking, Brake
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break	d friction; safety a downs of total ro	nd maintenance issues in	braking, Brake
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions;	d friction; safety a downs of total ro UNIT-III tire motion anal	nd maintenance issues in ad loads.	braking, Brake 04 Hours 05 Hours
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire mod	d friction; safety a downs of total ro UNIT-III tire motion anal	nd maintenance issues in ad loads.	braking, Brake 04 Hours 05 Hours ire contact stres
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire moc Ride	d friction; safety a downs of total ro UNIT-III tire motion anal dels	nd maintenance issues in ad loads. ysis; tire force analysis; ti	braking, Brake 04 Hours 05 Hours
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire moc Ride	d friction; safety a downs of total ro UNIT-III tire motion anal dels	nd maintenance issues in ad loads. ysis; tire force analysis; ti	braking, Brake 04 Hours 05 Hours ire contact stres
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire moc Ride Excitation Sources, Vehicle response pr	d friction; safety a downs of total ro- UNIT-III tire motion anal dels operties, percepti	nd maintenance issues in ad loads. ysis; tire force analysis; ti on of ride	braking, Brake 04 Hours 05 Hours ire contact stres
braking system; wheel lock-up; tire/roa broportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Fire and Tire Dynamics Fire specifications and constructions; analysis; tire vibration analysis; tire mod Ride Excitation Sources, Vehicle response pr Course Outcomes: At the end of the co	d friction; safety a downs of total roo UNIT-III tire motion anal dels operties, percepti ourse student will	nd maintenance issues in ad loads. ysis; tire force analysis; ti on of ride be able to	braking, Brake 04 Hours 05 Hours ire contact stres
Display the system; wheel lock-up; tire/roa Display time Display time Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire mode Ride Excitation Sources, Vehicle response pr Course Outcomes: At the end of the construction 1. Analyse the dynamics of vehicle	d friction; safety a downs of total ro- UNIT-III tire motion anal dels operties, percepti ourse student will under different r	nd maintenance issues in ad loads. ysis; tire force analysis; ti on of ride be able to ding condition.	braking, Brake 04 Hours 05 Hours ire contact stres
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire mod Ride Excitation Sources, Vehicle response pr Course Outcomes: At the end of the co 1. Analyse the dynamics of vehicle 2. Analyse acceleration performant	d friction; safety a downs of total roo UNIT-III tire motion anal dels operties, percepti ourse student will under different ri ce of vehicle under	nd maintenance issues in ad loads. ysis; tire force analysis; ti on of ride be able to ding condition. er dynamic conditions.	braking, Brake 04 Hours 05 Hours ire contact stres
braking system; wheel lock-up; tire/roa proportioning, Braking efficiency Road Loads Aerodynamics, rolling resistance; break Tire and Tire Dynamics Tire specifications and constructions; analysis; tire vibration analysis; tire mod Ride Excitation Sources, Vehicle response pr Course Outcomes: At the end of the co 1. Analyse the dynamics of vehicle	d friction; safety a downs of total ro- UNIT-III tire motion anal dels operties, percepti ourse student will under different ri ce of vehicle under vehicle under dy	nd maintenance issues in ad loads. ysis; tire force analysis; ti on of ride be able to ding condition. er dynamic conditions. namic conditions.	braking, Brake 04 Hours 05 Hours ire contact stres



Course	e Outcomes Mapping with Prog	ram	Out	com	nes 8	۶ PS	0							
	Program Outcomes→	1	2	3	4	5	6	7	8	9	10	11	12	
	↓ Course Outcomes													
	EE3104-1.1	2	-	2	-	2	-	-	-	-	-	-	-	
	EE3104-1.2	2	-	2	-	2	-	-	-	-	-	-	-	
	EE3104-1.3		-	2	1	-	-	-	-	-	-	-	-	-
	EE3104-1.4	2	-	2	-	-	-	-	-	-	-	-	-	-
	EE3104-1.5	2	-	2	-	-	-	-	-	-	-	-	-	
										l: Lo	w 2:	Med	ium	3: High
REFER	ENCE BOOKS:													
1.	Fundamentals of Vehicle Dynam	ics, ⁻	Thor	nas (Gille	spie,	SAE	E Pul	olica	tion	•			
2.	The Multibody systems Approac	h to	Veh	icle	Dyna	amic	s, M	ike l	Blun	dell	and [Damia	an Ha	arty,
	Elsevier, 2004.													
3.	Vehicle Dynamics, Theory and A		atio	n, Re	eza N	I. Ja	zar,	Spri	nger	, 200	09, IS	BN 9	78-0-	-387-
	74243-4, e-ISBN 978-0-387-7424													
4.	Race Car Vehicle Dynamics, W.F.													
5.	Reimpell, Stoll and Betzler: The A			ive C	hass	sis: E	ngir	neeri	ing F	Princ	iples.	Butt	erwo	rth-
	Heinemann Publisher, 2 nd Editior	n, 20	01											
6.	Hans Pacejka, Tire and Vehicle D	ynai	nics,	, Else	evier	, 201	.2							
7.	Rajesh Rajamani, Vehicle Dynam	ics 8	k coi	ntrol	, Spi	ringe	er, 20	014						
8.	R.V. Dukkipati, Vehicle dynamics	, Na	rova	Pub	licat	ions	, 200	00.						



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Course Code:	EE3105-1	Course Type:	PCC
Teaching Hours/Week (L: T: P:S):	3:0:0:0	Credits:	
Total Teaching Hours:	40+0+0	CIE + SEE Marks:	
		ectronics Engineering	
Course Objectives:		<u> </u>	
1. To understand the methods of c	ryptography		
2. To know the importance of emb			
3. To understand the network secu	,	otive network	
4. To understand the requirement of	1		
	UNIT-I		
Introduction to Cryptography			14 Hours
Introduction to cryptography, Classical C	Cryptosystem, mess	age authentication, hash fun	ctions, publi
key encryptions, user authentications		-	
Block Cipher Data Encryption Stand	dard (DES), Tripl	e DES, Modes of Operat	ion, Strear
Cipher. Advanced Encryption Standar	d (AES), Introduct	ion to Public Key Cryptosy	stem, Diffie
Hellman Key Exchange, Knapsack Crypto	osystem, RSA Crypt	osystem.	
	UNIT-II		-
Protecting IP in cloud connected wor	-		08 Hours
Protecting IP in cloud connected wor Protection of IP, CODE isolation, enc	ld	security, trustonic expertise	
	ld	security, trustonic expertise	
Protection of IP, CODE isolation, enc	ld	security, trustonic expertise	
Protection of IP, CODE isolation, enc protection.	ld ryption, hardware	· · ·	e tool for I
Protection of IP, CODE isolation, enc protection. Embedded Security: Introduction	ld ryption, hardware ntiality, Properties	of secure system Security e	e tool for I 08 Hours elements(JIL
Protection of IP, CODE isolation, enc protection. Embedded Security: Introduction Authentication, Integrity and Confider	ld ryption, hardware ntiality, Properties	of secure system Security e	e tool for I 08 Hours elements(JIL
Protection of IP, CODE isolation, enc protection. Embedded Security: Introduction Authentication, Integrity and Confider importance of keys in security, cus	ld ryption, hardware ntiality, Properties	of secure system Security e	e tool for I 08 Hours elements(JIL
Protection of IP, CODE isolation, enc protection. Embedded Security: Introduction Authentication, Integrity and Confider importance of keys in security, cus examples.(cryptoAuthlib) Automotive Network security	ld ryption, hardware ntiality, Properties stomization challe UNIT-III	of secure system Security ended and secure system of secure system Security ended and sec	e tool for I 08 Hours elements(JIL , tools an 10 Hours
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Protection of IP, CODE isolation, encorprotection. Embedded Security: Introduction Authentication, Integrity and Confider importance of keys in security, cust examples.(cryptoAuthlib) Automotive Network security Motivation for automotive network Automotive security IC attributes, security Firmware Resiliency in Automotive applience Course Outcomes: At the end of the corporation 1. Describe the principles of data e	Id ryption, hardware ntiality, Properties stomization challe UNIT-III security, Automo ity challenges. ication purse student will b ncryptions in crypt	of secure system Security enges, distribution of keys otive security, message au enable to ography	e tool for I 08 Hours elements(JIL , tools an 10 Hours
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Protection of IP, CODE isolation, encorprotection. Embedded Security: Introduction Authentication, Integrity and Confider importance of keys in security, cust examples.(cryptoAuthlib) Automotive Network security Motivation for automotive network Automotive security IC attributes, security Firmware Resiliency in Automotive applie Course Outcomes: At the end of the construction 1. Describe the principles of data encorporation 2. Comprehend the algorithms of construction 3. Explain the importance of Proteconstruction 4. Analyze the importance of key set	Id ryption, hardware ntiality, Properties stomization challe UNIT-III security, Automo ity challenges. ication purse student will b ncryptions in crypto cryptography for da ction of IP in cloud ecurity and custom	of secure system Security enges, distribution of keys otive security, message au e able to ography ta security connected network ization challenges for embed	e tool for I 08 Hours elements(JIL , tools an 10 Hours ithentication ded



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	Program Outcomes $ ightarrow$	1	2	3	4	5	6	7	8	9	10	11	12	
	↓ Course Outcomes													
	EE3105-1.1	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3105-1.2	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3105-1.3	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3105-1.4	3	2	-	-	-	-	-	-	-	-	-	-	
	EE3105-1.5	3	2	-	-	-	-	-	-	-	-	-	-	
										1:	Low	2: Me	ediun	n 3: Hig
KTBO	OKS:													