SCHEMA

Dual Degree Program – M. Tech. (EEE) + PhD

Offered by:

Department of Electrical and Electronics Engineering

SEMESTER-I					
S. No.	**Subject Code**	**Title of the course**	**Component**	**L-T-P**	**Credits**
1.	EE-603	Machine Learning Techniques	M.Tech	3-0-2	4
2.	EE-612	Sensors and Actuators		3-0-2	4
3.	EE-613	Next-Generation Communication Systems		3-0-0	3
4.	EE-403	Power Electronics		3-0-2	4
5.	EE-XXX	Elective-1		3-0-0	3
6.	EE-XXX	Elective-2		3-0-0	3
				Total credits	**21**

SEMESTER-II					
S. No.	**Subject code**	**Title of the course**	**Component**	**L-T-P**	**Credits**
1.	EE-615	Autonomous Systems	M.Tech	3-0-0	3
2.	EE-060	RF Circuit Design		3-0-0	3
3.	EE-610	CAD for VLSI		3-0-0	3
4.	EE-609	Engineering Research Methodology		2-1-0	3
5.	EE-XXX	Elective-3		3-0-0	3
6.	EE-XXX	Elective-4/MOOC		3-0-0	3
				Total credits	**18**

Semester – III					
SN	**Subject Code**	**Course Title**	**Component**	**L-T-P**	**Credits**
1		M. Tech. Elective/MOOC	PhD*	3-0-0	3

2		Elective/MOOC as per PhD ordinance	PhD*	3-0-0	3
3		M. Tech. Research Credits/Ph.D. Thesis Credits	M. Tech. /Ph.D.		15 / 6
				Credits	21 / 12

Note:

- **Students with a planned exit follow the M. Tech. course structure from the next semester onwards.**

***Convertible to M.Tech. in case of an exit without PhD.**

Semester – IV					
SN	**Subject Code**	**Course Title**	**Component**	**L-T-P**	**Credits**
1		M. Tech. Research Credits/Ph.D. Thesis Credits	M. Tech. /Ph.D.		18 / 12
				Credits	18 / 12

Note:

- **Students with an abrupt exit can convert PhD Research Credits into M. Tech. research credits, re-defend PhD Research Credits as M. Tech. Research Credits with a letter grade and exit as an M. Tech.**

Semester V and onwards					
S.No.	**Subject Code**	**Course Title**	**Component**	**L-T-P**	**Credits**
1		Research Credits	Ph.D.		As per PhD Ordinance

Note:

- **Students with abrupt exit can convert PhD Research Credits into M. Tech. research credits, re-defend PhD Research Credits as M. Tech. Research Credits with a letter grade and exit as an M. Tech.**

List of Electives:

S.N.	**Code**	**Electives**
1	EE-065	High-Performance Computing Systems
2	EE-067	Sensors for Autonomous System
3	EE-073	Data Analytics
4	EE-075	Reinforcement Learning
5	EE-078	Quantum Computing
6	EE-080	Deep Learning for Autonomous Systems
7	EE-082	Advanced Control System
8	EE-069	Digital Image Computation

9	EE-070	Audio Signal Processing
10	EE-071	Advanced Digital Signal Processing
11	EE-072	Biomedical Signal Processing
12	EE-074	Computer Vision
13	EE-076	Internet of Bio-Nano Things
14	EE-079	Cyber Security
15	EE-081	Optimization Techniques
16	EE-083	Internet of Things
17	EE-085	Software Defined Radio
18	EE-086	Quantum Communication
19	EE-087	5G and 6G standards
20	EE-088	Smart Antennas
21	EE-089	Advanced Optical Communication
22	EE-092	Data Communication Protocol
23	EE-051	Device and Interconnect Modelling
24	EE-052	VLSI Signal Processing
25	EE-053	Low Power VLSI

26	EE-054	Microcontroller and Embedded Systems
27	EE-055	Memory Devices and Circuits
28	EE-056	VLSI Architecture
29	EE-057	Hardware Security
30	EE-058	FPGA-Based System Design
31	EE-059	Quantum Electronics
32	EE-402	Intelligent Transportation Systems
33	EE-061	Mixed Signal SoC Design
34	EE-062	AI-Accelerator Design
35	EE-063	System-on-Chip Design
36	EE-064	Embedded Software
37	EE-066	Special Topics in IC Design and Technology
38	EE-068	Network on Chip
39	EE-602	System Design using HDL
40	EE-608	Design Verification and Testing
42	EE-077	Advanced Concepts in Electronics Engineering
43	EE-616	Artificial Intelligence
44	EE-617	Advanced Embedded Systems
45	EE-614	Human-Machine Interaction
46	EE-631	Electric Vehicle Technology
47	EE-632	Renewable Energy Systems