Annexure- 3

M. Tech. (VLSI Design)
(Applicable from 2026 batch)

FirstSemester

Sr. No.	Course Code	CourseTitle	L	T	P	Credits	Contact Hours
1.		Semiconductor Device Modeling	3	0	0	3	3
2.		Digital Design with HDL	3	0	0	3	3
3.		Digital Integrated Circuits	3	0	0	3	3
4.		Design of Analog CMOS Integrated Circuits	3	0	0	3	3
5.		Elective-I	3	0	0	3	3
6.		Elective-II	3	0	0	3	3
7.		Digital Design with HDL Lab	0	0	2	1	2
8.		VLSI CAD Lab-I	0	0	2	1	2
		Total	**18**	**0**	**4**	**20**	**22**

Second Semester

Sr. No.	Course Code	CourseTitle	L	T	P	Credits	Contact Hours
1.		Embedded Systems Design	3	0	0	3	3
2.		Analog, RF and Mixed Signal Systems	3	0	0	3	3
3.		IC Fabrication	3	0	0	3	3
4.		Elective-III	3	0	0	3	3
5.		Elective-IV	3	0	0	3	3
6.		Elective-V	3	0	0	3	3
7.		Embedded Systems Design Lab	0	0	2	1	2
8.		VLSI CAD Lab-II	0	0	2	1	2
		Total	**18**	**0**	**4**	**20**	**22**

Third Semester

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.	EC-	Project Phase-I	0	0	10	20	20
		Total	**0**	**0**	**10**	**20**	**20**

Fourth Semester

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.	EC-	Project Phase-II	0	0	10	20	20
		Total	**0**	**0**	**10**	**20**	**20**

Grand Total of Credits=80

Annexure- 3

List of Electives

SNo	Course Code	CourseTitle	L	T	P	Credits
1		Active and Passive RF Circuits	3	0	0	3
2		Biomedical Signal Processing	3	0	0	3
3		RF Circuit Design	3	0	0	3
4		RF MEMS	3	0	0	3
5		VLSI Digital Signal Processing	3	0	0	3
6		Algorithm for VLSI Design Automation	3	0	0	3
7		ASIC Design and FPGAs	3	0	0	3
8		Fluctuation Phenomena in Microelectronics	3	0	0	3
9		VLSI Interconnects	3	0	0	3
10		H/WS/W Co-design	3	0	0	3
11		Low Power VLSI Design	3	0	0	3
12		Memory Design and Testing	3	0	0	3
13		Nanoelectronics	3	0	0	3
14		NanoTechnology	3	0	0	3
15		Process Characterization and Device Modeling	3	0	0	3
16		Process, Devices& Circuit Simulation	3	0	0	3
17		Real Time Systems and Software	3	0	0	3
18		Reconfigurable Computing	3	0	0	3
19		Sensors and Transducers	3	0	0	3
20		Sensor Technologies and MEMS.	3	0	0	3
21		Solid State Circuits	3	0	0	3
22		System on Chip	3	0	0	3
23		Testing and Fault Tolerance	3	0	0	3
24		Image Processing	3	0	0	3
25		Medical Electronics and Instrumentation	3	0	0	3
26		Advanced Analog Circuits	3	0	0	3
27		Thermal Management of Electronics System	3	0	0	3
28		Digital Signal Processing for VLSI	3	0	0	3
29		VLSI Technology and Process Modeling	3	0	0	3

Annexure- 3

M. Tech. (IOT & SENSOR SYSTEMS) (Applicable from 2026 batch)

First Semester

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.		IoT Fundamentals & Architecture	3	0	0	3	3
2.		Probability & Random Processes for IoT	3	0	0	3	3
3.		Signal Processing & Data Analytics for IoT	3	0	0	3	3
		Signal Processing & Data Analytics for IoT	0	0	2	1	2
4.		IoT Platforms & Cloud Integration	3	0	0	3	3
5.		IoT Platforms & Cloud Integration Lab	0	0	2	1	2
6.		School Elective - I	3	0	0	3	3
7.		School Elective-II	3	0	0	3	3
		Total	**20**	**0**	**6**	**20**	**20**

Semester II (First Year)

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.		Sensors & Signal Conditioning	3	0	0	3	3
2.		Embedded Systems for IoT	3	0	0	3	3
3.		IoT Networks & Protocols (LPWAN/Wi-Fi/5G)	3	0	0	3	3
4.		Programming using Python	2	0	2	3	4
		School Elective - III	3	0	0	3	3
5.		School Elective - IV	3	0	0	3	3
6.		IoT & Sensor Systems Lab	0	0	2	1	2
7.		IoT Data Acquisition & Analytics Lab	0	0	2	1	2
		Total	**16**	**0**	**6**	**20**	**22**

Third Semester

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.	EC-	Project Phase-I	0	0	10	20	20
		Total	**0**	**0**	**10**	**20**	**20**

Annexure- 3

Fourth Semester

Sr. No.	Course Code	Course Title	L	T	P	Credits	Contact Hours
1.	EC-	Project Phase-II	0	0	10	20	20
		Total	**0**	**0**	**10**	**20**	**20**

Grand Total of Credits=80

LIST OF ELECTIVES (INDICATIVE)

SNo	Course Code	Course Title	L	T	P	Credits
1		Wireless Sensor Networks and Applications	3	0	0	3
2		Advanced Topics in Wireless Sensor Networks	3	0	0	3
3		Industrial IoT and SCADA Systems	3	0	0	3
4		Edge AI for IoT (TinyML and On-device ML)	3	0	0	3
5		IoT Security, Trust and Privacy	3	0	0	3
6		RF and Microwave Sensors	3	0	0	3
7		Biomedical Sensors and Wearables	3	0	0	3
8		Embedded Linux and Real-Time Operating Systems	3	0	0	3
9		Computer Vision for Embedded Systems	3	0	0	3
10		Cloud, Fog and Serverless Computing for IoT	3	0	0	3
11		Digital Twins and CPS Modelling	3	0	0	3
12		Low Power VLSI for IoT Devices	3	0	0	3
13		Localization and Tracking Systems	3	0	0	3
14		Blockchain for IoT and Supply Chain Traceability	3	0	0	3