

MOTHER TERESA INSTITUTE OF SCIENCE & TECHNOLOGY

AUTONOMOUS

B.Tech. in ELECTRONICS AND COMMUNICATION ENGINEERING COURSE STRUCTURE & SYLLABUS (M25 Regulations)

Applicable from A.Y 2025-26 Batch

I Year I Semester

M25

S.NO	Course Code	Title of the Course	L	T	P/D	CH	C
1	M25BSMA101	Matrices and Calculus	3	1	0	4	4
2	M25BSPH102	Advanced Engineering Physics	3	0	0	3	3
3	M25CSES103	Programming for Problem Solving	3	0	0	3	3
4	M25BSEN104	Introduction to Electrical Engineering	2	0	0	2	2
5	M25ECES105	Engineering Drawing and Computer Aided Drafting	2	0	2	4	3
6	M25CEES106	English for Skill Enhancement	3	0	0	3	3
7	M25BSPH107	Advanced Engineering Physics Lab	0	0	2	2	1
8	M25CSES108	Programming for Problem Solving Lab		0	2	2	1
9	M25BSEN109	English Language and Communication Skills Lab	0	0	2	2	1
10		Induction Program					
		Total	16	01	08	25	21

I Year II Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
1	M25BSMA201	Ordinary Differential Equations and Vector Calculus	3	0	0	3	3
2	M25BSEC202	Engineering Chemistry	3	0	0	3	3
3	M25CSES203	Python Programming	3	0	0	3	3
4	M25ECES204	Electronic Devices and Circuits	3	0	0	3	3
5	M25ECES205	Network Analysis and Transmission Lines	3	0	0	3	3
6	M25BSEC206	Engineering Chemistry Lab	0	0	2	2	1
7	M25CSES209	Applied Python Programming Lab	0	0	2	2	1
8	M25ECES208	Electronic Devices and Circuits Lab	0	0	2	2	1
9	M25EEES207	Basic Electrical Engineering Lab	0	0	2	2	1
10	M25MEES210	Engineering Workshop	0	0	2	2	1
		Total	15	00	10	25	20

L – Lecture T – Tutorial P – Practical D – Drawing CH – Contact Hours/Week C – Credits

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II Year I Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
1	M25BSMA301	Numerical Methods and Complex Variables	3	0	0	3	3
2	M25ECPC302	Signals and Systems	3	0	0	3	3
3	M25ECPC303	Electronic Circuit Analysis	3	0	0	3	3
4	M25ECPC304	Digital Logic Design	3	0	0	3	3
5	M25ECPC305	Control System Engineering	2	0	0	2	2
6	M25HSMN306	Innovation and Entrepreneurship	2	0	0	2	2
7	M25ECPC307	Modeling and Simulation Laboratory	0	0	2	2	1
8	M25ECPC308	Electronic Circuit Analysis Laboratory	0	0	2	2	1
9	M25ECPC309	Digital Logic Design Laboratory	0	0	2	2	1
10	M25ECSD310	Linux and Shell Scripting	0	0	2	2	1
11	M25HSVA311	Environmental Science	1	0	0	1	1
Total			17	00	08	25	21

II Year II Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
1	M25BSMA401	Probability Theory and Stochastic Processes	3	0	0	3	3
2	M25ECPC402	Electromagnetic Fields and Waves	3	0	0	3	3
3	M25ECPC403	Analog and Digital Communications	3	0	0	3	3
4	M25ECPC404	RISC and Microcontroller Architectures	3	0	0	3	3
5	M25ECPC405	Linear and Digital IC Applications	3	0	0	3	3
6	M25BSMA406	Computational Mathematics Laboratory	0	0	2	2	1
7	M25ECPC407	Analog and Digital Communications Laboratory	0	0	2	2	1
8	M25ECPC408	RISC and Microcontroller Interfacing Laboratory	0	0	2	2	1
9	M25ECPC409	Linear and Digital IC Applications Laboratory	0	0	2	2	1
10	M25ECSD410	HDL Verilog Programming	0	0	2	2	1
Total			15	00	10	25	20

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III Year I Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
1	M25ECPC501	Digital Signal Processing	3	0	0	3	3
2	M25ECPC502	IoT Architectures and Protocols	3	1	0	4	4
3	M25ECPC503	CMOS VLSI Design	3	0	0	3	3
Professional Elective – I							
4	M25ECPE501A	Computer Organization and Operating Systems	3	0	0	3	3
	M25ECPE501B	Electronic Measurements and Instrumentation					
	M25ECPE501C	CMOS Fabrication Technology					
	M25ECPE501D	Sustainability for Electronics					
5		Open Elective-I	2	0	0	2	2
6	M25ECPC504	IoT Architectures and Protocols Laboratory	0	0	2	2	1
7	M25ECPC505	CMOS VLSI Design Laboratory	0	0	2	2	1
8	M25ECPC506	Digital Signal Processing Laboratory	0	0	2	2	1
9	M25ECPC507	Field-based Research Project	0	0	4	4	2
10	M25ECSD508	FPGA based System Design	0	0	2	2	1
11	M25HSVA509	Constitution of India	1	0	0	1	0
Total			15	01	12	28	21

III Year II Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
1	M25ECPC601	Antenna Design and Wave Propagation	3	1	0	4	4
2	M25ECPC602	Wireless Communications	3	0	0	3	3
3	M25ECPC603	Business Economics and Financial Analysis	3	0	0	3	3
Professional Elective - II							
4	M25ECPE601A	Computer Networks & Protocols	3	0	0	3	3
	M25ECPE601B	Artificial Neural Networks and Deep Learning					
	M25ECPE601C	Digital Signal Processors and Architectures					
	M25ECPE601D	Analog IC Design					
5		Open Elective – II	2	0	0	2	2
6	M25ECPC604	Advanced Communications Laboratory	0	0	2	2	1
7	M25ECPC605	Wireless Communications Laboratory	0	0	2	2	1
8	M25ECPC606	VLSI Design Verification Laboratory	0	0	2	2	1
9	M25BSEN607	Advanced English Communication Skills Laboratory	0	0	2	2	1
10	M25ECSD608	Communication Technologies	0	0	2	2	1
11	M25HSVA609	Gender Sensitization Lab*/Human Values and Professional Ethics*	1	0	0	1	0
Total			15	01	10	26	20

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IV Year I Semester

M25

IV Year I Semester			M25				
S.NO	Course Code	Title of the Course	L	T	P/D	CH	C
1	M25ECPC701	Microwave and Optical Communications	3	0	0	3	3
2	M25ECPC702	Embedded System Design	3	0	0	3	3
3	M25ECPC703	Fundamentals of Management for Engineers	3	0	0	3	3
	Professional Elective – III						
4	M25ECPE701A	Digital Image Processing	3	0	0	3	3
	M25ECPE701B	Network Security and Cryptography					
	M25ECPE701C	Test and Testability					
	M25ECPE701D	Biomedical Instrumentation					
	Professional Elective – IV						
5	M25ECPE702A	5G and Beyond Communications	3	0	0	3	3
	M25ECPE702B	Adhoc Wireless Networks					
	M25ECPE702C	AI for Communications					
	M25ECPE702D	Bio medical Signal Processing					
6		Open Elective – III	2	0	0	2	2
7	M25ECPC704	Microwave and Optical Communications Laboratory	0	0	2	2	1
8	M25ECPC705	Embedded System Design Lab	0	0	2	2	1
9	M25ECPC706	Industry Oriented Mini Project/Internship	0	0	4	4	2
	Total		17	00	08	25	21

IV Year II Semester

M25

S.NO	CourseCode	Title of the Course	L	T	P/D	CH	C
Professional Elective - V							
1	M25ECPE801A	Radar Systems	3	0	0	3	3
	M25ECPE801B	Computer Vision and Machine Learning					
	M25ECPE801C	Broad band Access Technologies					
	M25ECPE801D	RF Circuit Design					
Professional Elective - VI							
2	M25ECPE802A	Satellite Communications	3	0	0	3	3
	M25ECPE802B	Quantum Technologies					
	M25ECPE802C	Global Navigation Satellite Systems					
	M25ECPE802C	System on Chip Architecture					
3	M25ECPC801	Project Work	0	0	28	28	14
Total			06	00	28	34	20

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**LIST OF OPEN ELECTIVES OFFERED FOR
M-25 REGULATION
B.TECH. ELECTRONICS AND COMMUNICATION ENGINEERING PROGRAMME**

The following is the list of open Electives offered for UG Courses by Department of ECE

Open Elective-I:

M25ECOE501A	C++ for Electronic Design Automation
M25ECOE501B	Digital Electronics for Engineers

Open Elective-II:

M25ECOE601A	Principles of Communications
M25ECOE601B	Electronics for Automated Testing

Open Elective-III:

M25ECOE701A	Measuring Instruments
M25ECOE701B	Hardware for IoT Applications

***Note:** Students should take Open Electives from the List of Open Electives Offered by Other Departments/Branches Only.