

MASTER OF TECHNOLOGY (M.Tech.)

Electronics & Communication Engineering

Programme Code: ECM

Duration: 2 Years

Teaching & Evaluation Scheme of Examination

FROM SESSION: 2019-2020 Onwards



Department of Electrical and Electronics Engineering

Faculty of Engineering & Technology

**CHHATRAPATI SHIVAJI MAHARAJ
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Teaching and Evaluation Scheme for First Year M. Tech. (VLSI and Embedded Systems)

Semester I											
Course Category	Course Code	Course Title	Hours/Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC111	RTL Simulation and Synthesis with PLDs	3	-	-	30	70	-	-	100	3
DC	ECMC112	Microcontrollers and Programmable Digital Signal Processors	3	-	-	30	70	-	-	100	3
DE	ECME1xx	Program Elective I	3	-	-	30	70	-	-	100	3
DE	ECME1xx	Program Elective II	3	-	-	30	70	-	-	100	3
DC	ECMC113	Research Methodology and IPR	2	-	-	30	70	-	-	100	2
AC	ECMA100	Audit course 1	2	-	0	30	70	-	-	100*	0
DC	ECMC190	RTL Simulation and Synthesis with PLDs Lab	-	-	4	-	-	15	35	50	2
DC	ECMC191	Microcontrollers and Programmable Digital Signal Processors Lab	-	-	4	-	-	15	35	50	2
TOTAL			16	-	8	180	420	30	70	700	18

Semester II											
Course Category	Course Code	Course Title	Hours/Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC213	Analog and Digital CMOS VLSI Design	3	-	-	30	70			100	3
DC	ECMC214	VLSI Design Verification and Testing	3	-	-	30	70			100	3
DE	ECME2xx	Program Elective III	3	-	-	30	70	-	-	100	3
DE	ECME2xx	Program Elective IV	3	-	-	30	70	-	-	100	3
DC	ECMC283	Mini Project	-	-	4	30	70	-	-	100	2
AC	ECMA201	Audit course 2	2	-	-	30	70	-	-	100*	0
DC	ECMC292	Analog and Digital CMOS VLSI Design	-	-	4	-	-	15	35	50	2
DC	ECMC293	VLSI Design Verification and Testing	-	-	4	-	-	15	35	50	2
TOTAL			14	-	12	180	420	30	70	700	18

Teaching and Evaluation Scheme for Second Year M. Tech. (VLSI and Embedded Systems)

Semester III											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DE	ECME3xx	Program Elective – V	3	-	-	30	70	-	-	100	3
OE	----	Elective	3	-	-	30	70	-	-	100	3
DC	ECMC394	Dissertation Phase – I	-	-	20	-	-	50	150	200	10
TOTAL			17	1	4	180	420	30	70	700	20

Semester IV											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC495	Dissertation Phase - II	-	-	32	-	-	100	200	300	16
TOTAL			-	-	32	-	-	100	200	300	16

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

L = Lecture, **T** = Tutorial, **P** = Practical, **IA**=Internal Assessment, **ESE**=End Semester Examination

* This course will be offered as a compulsory audit course for which passing marks are 40% in End Semester Examination.

Teaching and Evaluation Scheme for First Year M. Tech. (Signal Processing)

Semester I											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC121	Advanced Digital Signal Processing	3	-	-	30	70			100	3
DC	ECMC122	Digital Image and Video Processing	3	-	-	30	70			100	3
DE	ECME1xx	Program Elective I	3	-	-	30	70	-	-	100	3
DE	ECMC1xx	Program Elective II	3	-	-	30	70	-	-	100	3
DC	ECMC113	Research Methodology and IPR	2	-	-	30	70	-	-	100	2
DC	ECMC196	Advanced Digital Signal Processing	-	-	4			15	35	50	2
DC	ECMC197	Digital Image and Video Processing	-	-	4			15	35	50	2
AC	ECMA100	Audit course 1	2	-	0	30	70	-	-	100*	0
TOTAL			16	-	8	180	420	30	70	700	18

Semester II											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC223	Pattern Recognition and Machine Learning	3	-	-	30	70	-	-	100	3
DC	ECMC224	Detection and Estimation Theory	3	-	-	30	70	-	-	100	3
DE	ECME2xx	Program Elective III	3	-	-	30	70	-	-	100	3
DE	ECME2xx	Program Elective IV	3	-	-	30	70	-	-	100	3
DC	ECMC283	Mini Project	-	-	4	30	70	-	-	100	2
AC	ECMA201	Audit course 2	2	-	-	30	70	-	-	100*	0
DC	ECMC298	Pattern Recognition and Machine Learning	-	-	4	-	-	15	35	50	2
DC	ECMC299	Detection and Estimation Theory	-	-	4	-	-	15	35	50	2
TOTAL			14	-	12	180	420	30	70	700	18

Teaching and Evaluation Scheme for Second Year M. Tech. (Signal Processing)

Semester III											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DE	ECME3xx	Program Elective – V	3	-	-	30	70	-	-	100	3
OE	-----	Elective	3	-	-	30	70	-	-	100	3
DC	ECMC395	Dissertation Phase – I	-	-	20	-	-	50	150	200	10
		TOTAL	17	1	4	180	420	30	70	700	20

Semester IV											
Course Category	Course Code	Course Title	Hours/ Week			Theory Marks		Practical Marks		Total Marks	Credit
			L	T	P	IA	ESE	IA	ESE		
DC	ECMC495	Dissertation Phase - II	-	-	32	-	-	100	200	300	16
		TOTAL	-	-	16	-	-	100	200	300	16

Program Elective I					
EEME121	Digital Signal and Image Processing	EEME122	Computer Vision	EEME123	VLSI interconnects
Program Elective II					
EEME124	Parallel Processing	EEME125	Embedded System Design	EEME126	Voice and Data Networks
Program Elective III					
EEME227	Memory Design and Testing	EEME228	SoC (System on Chip) Design	EEME229	IOT and Applications
Program Elective IV					
EEME230	Biomedical Signal Processing	EEME231	Network Security and Cryptography	EEME232	Physical design automation
Program Elective V					
EEME333	Communication Network	EEME334	Modelling and Simulation Techniques	EEME335	Nano materials and Nanotechnology

Induction Program : 2 weeks at the beginning of semester-I and 1 week at the beginning of semester-II

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* This course will be offered as a compulsory audit course for which passing marks are 40% in End Semester Examination.

Open Elective

1. Business Analytics
2. Industrial Safety
3. Operations Research
4. Cost Management of Engineering Projects
5. Composite Materials
6. Waste to Energy

Audit course 1 & 2

1. English for Research Paper Writing
2. Disaster Management
3. Sanskrit for Technical Knowledge
4. Value Education
5. Constitution of India
6. Pedagogy Studies
7. Stress Management by Yoga
8. Personality Development through Life Enlightenment Skills.

Course Number Definition:

First two letters: Department Indicator

Third letter: Program Indicator

Fourth letter: Course Category Indicator (Basic Sciences: S; Humanities: H; Engineering Sciences and Arts: A; Departmental Core: C; Departmental Elective: E; Open Elective: O)

Fifth Character: Semester Indicator

Sixth and Seventh Character: Course Indicator