



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

**I M.Tech. (I Sem): Branch/Specialization: VLSI & Embedded System (R-23)**

S.NO	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	MVE101	Digital System Design with FPGAs	3	0	0	3
2	MVE102	ARM Microcontrollers	3	0	0	3
3	<b>Professional Elective - I</b>		3	0	0	3
	MVE103	1. Pattern Recognition and Machine Learning				
	MVE104	2. Embedded Sensors				
	MVE105	3. Memory Technologies				
	MVE106	4. Hardware Software Co-Design				
4	<b>Professional Elective - II</b>		3	0	0	3
	MVE107	1. Embedded Real Time Operating Systems				
	MVE108	2. Advanced Computer Architecture				
	MVE109	3. Communication Buses & Interfaces				
	MVE110	4. Machine Learning for Speech & Image Processing				
5	MVE111	Digital System Design with FPGAs Lab	0	0	4	2
6	MVE112	ARM Microcontrollers Lab	0	0	4	2
7	RD101	Research Methodology & IPR	2	0	0	2
8		Audit Course – I(See Annexure B2)	2	0	0	0
<b>Total</b>			<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**L: Lecture Hour**

**T: Tutorial Hour**

**P: Lab / Practice Hour**

**I M.Tech. (II Sem):**

**Branch/Specialization: VLSI & Embedded System**

S.NO	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	MVE113	CMOS Analog IC Design	3	0	0	3
2	MVE114	System Design with Embedded Linux	3	0	0	3
3	<b>Professional Elective - III</b>		3	0	0	3
	MVE115	1. IOT Architectures and System Design				
	MVE116	2. SOC Design				
	MVE117	3. Design for Testability				
	MVE118	4. CAD for VLSI				
4	<b>Professional Elective - IV</b>		3	0	0	3
	MVE119	1. Device Modeling				
	MVE120	2. Secure Networks				
	MVE121	3. Physical Design Automation				
	MVE122	4. Low power VLSI				
5	MVE123	CMOS Analog IC Design Lab	0	0	4	2
6	MVE124	System Design with Embedded Linux Lab	0	0	4	2
7	MVE125	Mini Project with Seminar	0	0	4	2
8		Audit Course – II (See Annexure B2)	2	0	0	0
<b>Total</b>			<b>14</b>	<b>0</b>	<b>10</b>	<b>18</b>

**L: Lecture Hour**

**T: Tutorial Hour**

**P: Lab / Practice Hour**



**II M.Tech. (ISem) :**

**Branch/Specialization: VLSI & Embedded Systems**

S.NO	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1		Professional Elective - V	3	0	0	3
	MVE126	1. CMOS Mixed Signal Design				
	MVE127	2. Embedded Networks				
	MVE128	3. Nano Materials and Nano Technology				
	MVE129	4. VLSI signal processing				
2		Open Elective	3	0	0	3
3	MVE130	Dissertation Work Review – I & II	0	0	12	6
<b>Total</b>			<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>

**L: Lecture Hour**

**T: Tutorial Hour**

**P: Lab / Practice Hour**

**II M.Tech. (II Sem):**

**Branch/Specialization: VLSI & Embedded Systems**

S.NO.	Course Code	Name of the Course	Contact Hours per Week			Credits
			L	T	P	
1	MVE131	Dissertation Work Review - III	0	0	12	6
2	MVE132	Dissertation Viva -Voce	0	0	28	14
<b>Total</b>			<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>

**L: Lecture Hour**

**T: Tutorial Hour**

**P: Lab / Practice Hour**

### Open Elective Courses Offered by the Electronics and Communication Engg. Department:

Course code	Open Electives offered by the Electronics and Communication Engg. Dept.,
MOE115	Business Analytics
MOE116	Industrial Safety
MOE117	Operations Research
MOE118	Cost management of Engineering Projects
MOE119	Composite Materials

### Annexure B2: Audit Course I & II for all M.Tech Programs

Course Code	Audit Course I & II:
MMC101	English for Research Paper Writing
MMC102	Disaster Management
MMC103	Sanskrit for Technical Knowledge
MMC104	Value Education
MMC105	Constitution of India
MMC106	Pedagogy Studies
MMC107	Stress Management by Yoga
MMC108	Personality Development through Life Enlightenment Skills