



# MARRI LAXMAN REDDY INSTITUTE OF TECHNOLOGY AND MANAGEMENT

(AN AUTONOMOUS INSTITUTION)

(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)

Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section 2(f) & 12(B) of the UGC act, 1956

## M.TECH in EMBEDDED SYSTEMS

### COURSE STRUCTURE (R22)

Applicable From 2022-23 Admitted Batch

S. No	Category	Breakup of credits (Total 68 credits)
1	Programme Core	20
2	Professional Elective	15
3	Open Elective	3
4	Mandatory Credit Course	2
5	Project Work	28
6	Audit Course	-
	<b>Total Credits</b>	<b>68</b>



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### COURSE STRUCTURE (R22)

Applicable From 2022-23 Admitted Batch

#### I YEAR I SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2215503	Digital System Design with FPGAs	PC	3	0	0	3	40	60	100
2	2215504	System Design with Embedded Linux	PC	3	0	0	3	40	60	100
3		Professional Elective - I	PE	3	0	0	3	40	60	100
4		Professional Elective - II	PE	3	0	0	3	40	60	100
5	2215521	Digital system Design with FPGAs Lab	PC	0	0	3	2	40	60	100
6	2215522	System Design with Embedded Linux Lab	PC	0	0	3	2	40	60	100
7	2215502	Research Methodology & IPR	MC	2	0	0	2	40	60	100
8		Audit Course - I	AC	2	0	0	0	100	-	100
<b>TOTAL</b>				<b>16</b>	<b>0</b>	<b>6</b>	<b>18</b>	<b>380</b>	<b>420</b>	<b>800</b>

#### I YEAR II SEMESTER

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2225505	ARM Microcontrollers	PC	3	0	0	3	40	60	100
2	2225506	Digital Control Systems	PC	3	0	0	3	40	60	100
3		Professional Elective - III	PE	3	0	0	3	40	60	100
4		Professional Elective - IV	PE	3	0	0	3	40	60	100
5	2225523	ARM Microcontrollers Lab	PC	0	0	3	2	40	60	100
6	2225524	Digital Control Systems Lab	PC	0	0	3	2	40	60	100
7	2225525	Mini Project with Seminar	PS	0	0	4	2	40	60	100
8		Audit Course - II	AC	2	0	0	0	100	-	100
<b>TOTAL</b>				<b>14</b>	<b>0</b>	<b>10</b>	<b>18</b>	<b>380</b>	<b>420</b>	<b>800</b>

**II YEAR I SEMESTER**

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1		Professional Elective - V	PE	3	0	0	3	40	60	100
2		Open Elective	OE	3	0	0	3	40	60	100
3	2235526	Dissertation Work Review-I	PS	0	0	12	6	100	0	100
<b>TOTAL</b>				<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>	<b>180</b>	<b>120</b>	<b>300</b>

**II YEAR II SEMESTER**

S. No.	Course Code	Course Name	Course Area	Periods per week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2245527	Dissertation Work Review-II	PS	0	0	12	6	100	0	100
2	2245528	Dissertation Viva - Voce	PS	0	0	28	14	0	100	100
<b>TOTAL</b>				<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>	<b>100</b>	<b>100</b>	<b>200</b>

**Professional Elective (PE) Courses**

**Professional Elective-I**

S. No.	Course Code	Course Title
1	2215507	CMOS VLSI Design
2	2215508	Pattern Recognition and Machine Learning
3	2215509	Wireless Sensor Networks

**Professional Elective-II**

S. No.	Course Code	Course Title
1	2215510	Communications Buses & Interfaces
2	2215511	Advanced Computer Architecture
3	2215512	CMOS Analog IC Design

**Professional Elective-III**

S. No.	Course Code	Course Title
1	2225513	IoT Architectures and System Design
2	2225514	Design for Testability
3	2225515	SoC Design

**Professional Elective-IV**

S. No.	Course Code	Course Title
1	2225516	Hardware and Software Co-Design
2	2225517	Secure Networks
3	2025518	Physical Design Automation

**Professional Elective-V**

S. No.	Course Code	Course Title
1	2235519	Embedded Networks
2	2235520	CMOS Mixed Signal Design
3	2235521	Human -Machine Interface

**Audit Course – I**

S. No.	Course Code	Course
1	2210001	English for Research Paper Writing
2	2210002	Disaster Management
3	2210003	Sanskrit for Technical Knowledge
4	2210004	Value Education

**Audit Course – II**

S. No.	Course Code	Course
1	2220005	Constitution of India
2	2220006	Pedagogy Studies
3	2220007	Stress Management by Yoga
4	2220008	Personality Development Through Life Enlightenment Skills

**Open Elective (OE) Course**

S. No.	Course Code	Course Title
1	2235501	Overview of VLSI & Embedded Systems
2	2235502	Principles of Electronic Communications
3	2235503	Fundamentals of Nano Technology

**\*Open Elective** – Students should take Open Electives from List of Open Electives Offered by Other Departments/Branches Only.