

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD  
M.TECH IN ELECTRONICS AND COMMUNICATION ENGINEERING  
EFFECTIVE FROM ACADEMIC YEAR 20122-23 ADMITTED BATCH**

**R22 COURSE STRUCTURE AND SYLLABUS**

**I YEAR I – SEMESTER**

Course Code	Course Title	L	T	P	Credits
Professional Core - I	Digital System Design with FPGAs	3	0	0	3
Professional Core - II	Wireless Communications and Networks	3	0	0	3
Professional Elective - I	1. Pattern Recognition and Machine Learning 2. VLSI Technology and Design 3. Design of Fault Tolerant Systems	3	0	0	3
Professional Elective - II	1. Embedded Real Time Operating Systems 2. Optical Communications and Networks 3. Wireless MIMO Communications	3	0	0	3
Lab - I	Digital System Design with FPGAs Lab	0	0	4	2
Lab - II	Wireless Communications and Networks Lab	0	0	4	2
	Research Methodology & IPR	2	0	0	2
Audit - I	Audit Course - I	2	0	0	0
	<b>Total</b>	<b>16</b>	<b>0</b>	<b>8</b>	<b>18</b>

**I YEAR II – SEMESTER**

Course Code	Course Title	L	T	P	Credits
Professional Core - III	Advanced Digital Signal Processing	3	0	0	3
Professional Core - IV	Advanced Communications and Networks	3	0	0	3
Professional Elective - III	1. SoC Design 2. Coding Theory and Techniques 3. IOT Architectures and System Design	3	0	0	3
Professional Elective - IV	1. Cognitive Radio 2. Embedded System Design 3. Voice and Data Networks	3	0	0	3
Lab - III	Advanced Digital Signal Processing Lab	0	0	4	2
Lab - IV	Advanced Communications and Networks Lab	0	0	4	2
	Mini Project with Seminar	0	0	4	2
Audit - II	Audit Course- II	2	0	0	0
	<b>Total</b>	<b>14</b>	<b>0</b>	<b>12</b>	<b>18</b>

**II YEAR I - SEMESTER**

Course Code	Course Title	L	T	P	Credits
Professional Elective - V	1. Embedded Networks 2. Ad-hoc & Wireless Sensor Networks 3. 5G and Beyond Communications	3	0	0	3
Open Elective	Open Elective	3	0	0	3
Dissertation	Dissertation Work Review – II	0	0	12	6
	<b>Total Credits</b>	<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>

**II YEAR II - SEMESTER**

Course Code	Course Title	L	T	P	Credits
Dissertation	Dissertation Work Review - III	0	0	12	06
Dissertation	Dissertation Viva-Voce	0	0	28	14
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>40</b>	<b>20</b>

**\*Open Electives:**

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

**Audit Course I & II:**

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