



**B.TECH in ELECTRONICS AND COMMUNICATION ENGINEERING**  
**COURSE STRUCTURE (MLRS-R19)**

**Applicable For 2019-20 Admitted Batch**

**I B.Tech - I Sem**

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	1910001	Mathematics-I	BS	3	1	0	4	30	70	100
2	1910006	Applied Physics	BS	3	1	0	4	30	70	100
3	1910501	Programming for Problem Solving	ES	3	1	0	4	30	70	100
4	1910371	Engineering Graphics	ES	1	0	4	3	30	70	100
5	1910071	Applied Physics Laboratory	ES	0	0	3	1.5	30	70	100
6	1910571	Programming for Problem Solving Laboratory	ES	0	0	3	1.5	30	70	100
7	1910021	Environmental Science	*MC	3	0	0	0	100	-	100
		Induction Programme	-	-	-	-	-	-	-	-
<b>TOTAL</b>				<b>13</b>	<b>3</b>	<b>10</b>	<b>18</b>	<b>280</b>	<b>420</b>	<b>700</b>

**I B.Tech - II Sem**

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	1920002	Mathematics-II	BS	3	1	0	4	30	70	100
2	1920008	Chemistry	BS	3	1	0	4	30	70	100
3	1920201	Basic Electrical Engineering	HS	3	0	0	3	30	70	100
4	1920372	Engineering Workshop	ES	1	0	3	2.5	30	70	100
5	1920009	English	BS	2	0	0	2	30	70	100
6	1920073	Engineering Chemistry Laboratory	HS	0	0	3	1.5	30	70	100
7	1920074	English Language Communication Skills Laboratory	ES	0	0	2	1	30	70	100
8	1920271	Basic Electrical Engineering Laboratory	ES	0	0	2	1	30	70	100
<b>TOTAL</b>				<b>12</b>	<b>2</b>	<b>10</b>	<b>19</b>	<b>240</b>	<b>560</b>	<b>800</b>

\*MC- Satisfactory/Unsatisfactory



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**II B.Tech - I Sem**

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	1930411	Electronic Devices and Circuits	PC	3	1	0	4	30	70	100
2	1930412	Network Analysis and Transmission Lines	PC	3	0	0	3	30	70	100
3	1930413	Digital System Design	PC	3	1	0	4	30	70	100
4	1930403	Signals and Systems	PC	3	1	0	4	30	70	100
5	1930414	Probability Theory and Stochastic Processes	ES	3	0	0	3	30	70	100
6	1930476	Electronic Devices and Circuits Laboratory	PC	0	0	2	1	30	70	100
7	1930477	Digital System Design Laboratory	PC	0	0	2	1	30	70	100
8	1930478	Basic Simulation Laboratory	PC	0	0	2	1	30	70	100
9	1930023	Constitution of India	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>18</b>	<b>3</b>	<b>6</b>	<b>21</b>	<b>240</b>	<b>560</b>	<b>800</b>

**II B.Tech - II Sem**

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	1940003	Laplace Transforms, Numerical Methods & Complex Variables	BS	3	1	0	4	30	70	100
2	1940415	Electromagnetic Fields and Waves	PC	2	1	0	3	30	70	100
3	1940416	Analog and Digital Communication	PC	3	1	0	4	30	70	100
4	1940417	Linear IC Applications	PC	3	0	0	3	30	70	100
5	1940418	Electronic Circuit Analysis	PC	3	0	0	3	30	70	100
6	1940479	Analog and Digital Communications Laboratory	PC	0	0	3	1.5	30	70	100
7	1940480	IC Applications Laboratory	PC	0	0	3	1.5	30	70	100
8	1940481	Electronic Circuit Analysis Laboratory	PC	0	0	2	1	30	70	100
9	1940022	Gender Sensitization Lab	*MC	0	0	2	0	-	-	-
<b>TOTAL</b>				<b>15</b>	<b>3</b>	<b>10</b>	<b>21</b>	<b>240</b>	<b>560</b>	<b>800</b>

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**III B.Tech – I Sem**

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	1950404	Micro Processors and Micro Controllers	PC	3	1	0	4	30	70	100
2	1950405	Data Communication and Networks	PC	3	1	0	4	30	70	100
3	1950203	Control Systems	PC	3	1	0	4	30	70	100
4	1950010	Business Economics and Financial Analysis	HS	3	0	0	3	30	70	100
5		Professional Elective – I	PE	3	0	0	3	30	70	100
6	1950474	Microprocessors and Microcontrollers Laboratory	PC	0	0	3	1.5	30	70	100
7	1950482	Data Communication and Networks Laboratory	PC	0	0	3	1.5	30	70	100
8	1950075	Advanced Communication Skills Laboratory	BS	0	0	2	1	30	70	100
9	1950024	Intellectual Property Rights	*MC	3	0	0	0	-	-	-
10	1950026	Cyber Security	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>18</b>	<b>3</b>	<b>8</b>	<b>22</b>	<b>240</b>	<b>560</b>	<b>800</b>

**III B.Tech - II Sem**

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	1960419	Antennas and Propagation	PC	3	1	0	4	30	70	100
2	1960420	Digital Signal Processing	PC	3	1	0	4	30	70	100
3	1960421	VLSI Design	PC	3	1	0	4	30	70	100
4		Professional Elective - II	PE	3	0	0	3	30	70	100
5		Open Elective – I	OE	3	0	0	3	30	70	100
6	1960483	Digital Signal Processing Laboratory	PC	0	0	3	1.5	30	70	100
7	1960484	e-CAD Laboratory	PC	0	0	3	1.5	30	70	100
8	1960573	Scripting Languages Laboratory	PC	0	0	2	1	30	70	100
9	1960027	Artificial Intelligence	*MC	3	0	0	0	-	-	-
<b>TOTAL</b>				<b>15</b>	<b>3</b>	<b>8</b>	<b>22</b>	<b>240</b>	<b>560</b>	<b>800</b>

**\*MC- Satisfactory/Unsatisfactory**

**Note:** Industry Oriented *Mini Project/Summer Internship* is to be carried out during the summer vacation between 6<sup>th</sup> and 7<sup>th</sup> semesters. Students should submit report of IOMP/Summer Internship for evaluation.

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**IV B.Tech – I Sem**

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	1970422	Microwave and Optical Communications	PC	3	0	0	3	30	70	100
2		Professional Elective – III	PE	3	0	0	3	30	70	100
3		Professional Elective – IV	PE	3	0	0	3	30	70	100
4		Open Elective - II	OE	3	0	0	3	30	70	100
5	1970011	Professional Practice, Law & Ethics	MS	2	0	0	2	30	70	100
6	1970485	Microwave and Optical Communications Lab	PC	0	0	2	1	30	70	100
7	1970486	Industrial Oriented Mini Project/ Summer Internship	PS	0	0	0	2*	-	100	100
8	1970487	Seminar	PS	0	0	2	1	100	-	100
9	1970488	Project Stage - I	PS	0	0	6	3	100	-	100
<b>TOTAL</b>				<b>14</b>	<b>0</b>	<b>10</b>	<b>21</b>	<b>380</b>	<b>520</b>	<b>900</b>

**IV B.Tech - II Sem**

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	30	70	100
2		Professional Elective – VI	PE	3	0	0	3	30	70	100
3		Open Elective - III	OE	3	0	0	3	30	70	100
4	1980489	Project Stage - II	PS	0	0	14	7	25	75	100
<b>TOTAL</b>				<b>9</b>	<b>0</b>	<b>14</b>	<b>16</b>	<b>115</b>	<b>285</b>	<b>400</b>



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**Professional Elective (PE) Courses**

**Professional Elective-I**

S. No.	Course Code	Course Title
1	1950441	Computer Organization & Operating Systems
2	1950442	Error Correcting Codes
3	1950443	Electronic Measurements and Instrumentation

**Professional Elective-II**

S. No.	Course Code	Course Title
1	1960444	Object Oriented Programming through Java
2	1960445	Mobile Communications and Networks
3	1960446	Embedded System Design

**Professional Elective-III**

S. No.	Course Code	Course Title
1	1970447	Artificial Neural Networks
2	1970448	Scripting Languages
3	1970449	Digital Image Processing

**Professional Elective-IV**

S. No.	Course Code	Course Title
1	1970450	Biomedical Instrumentation
2	1970451	Database Management Systems
3	1970452	Network Security and Cryptography

**Professional Elective-V**

S. No.	Course Code	Course Title
1	1980453	Satellite Communications
2	1980454	Radar Systems
3	1980455	Wireless Sensor Networks

**Professional Elective-VI**

S. No.	Course Code	Course Title
1	1980456	System on Chip Architecture
2	1980457	Test and Testability
3	1980458	Low Power VLSI Design



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**MLRS-R19 B.TECH. List of Open Electives**

**Applicable For 2019-20 Admitted Batch**

<b>III Yr II Sem Open Elective (OE – I)</b>	<b>IV Yr I Sem Open Elective (OE – II)</b>	<b>IV Yr II Sem Open Elective (OE – III)</b>
19604OE: Fundamentals of Internet of Things	19704OE: Electronic Sensors	19804OE: Measuring Instruments

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