



**Symbiosis Institute of Technology, Pune**  
**Master of Technology (Electronics & Tele-Communication Engineering)**  
**Programme Structure 2019-21**

1.	<b>OBJECTIVE</b>	To generate competent manpower in the emerging areas of Electronics and Telecommunication Technology. To inculcate among the students an aptitude for engineering and research for the furthering of knowledge in the chosen field.			
2.	<b>DURATION (IN MONTHS)</b>	24 (Full Time)			
3.	<b>INTAKE</b>	18			
4.	<b>RESERVATION</b>	<b>I. Within the sanctioned intake</b>	<b>a) SC (In Percentage)</b>	<b>b) ST (In Percentage)</b>	<b>c) Differently abled (In Percentage)</b>
			15	7.5	3
		<b>II. Over and above the sanctioned intake</b>	<b>a) Kashmiri Migrants (In Seats)</b>	<b>b) International Students (In Percentage)</b>	
			2	15	
5.	<b>ELIGIBILITY</b>	Engineering graduate (B.E. /B. Tech) from any recognised University/ Institution of National Importance with a minimum of 50% marks or equivalent grade (45% Marks or equivalent grade for Scheduled Caste/ Scheduled Tribes) in the discipline of Electrical/ Electronics (Communication Engineering) /Electronics and Telecommunication or Instrumentation.			
6.	<b>SELECTION PROCEDURE</b>	GATE score or Entrance Test for non-GATE candidates			
7.	<b>MEDIUM OF INSTRUCTION</b>	English			
8.	<b>PROGRAMME PATTERN</b>	Semester			
9.	<b>COURSE &amp; SPECIALIZATION</b>	As per Annexure A			
10.	<b>FEE</b>		<b>Academic Fee p.a</b>	<b>Institute Deposit</b>	<b>Total</b>
		<b>Indian Students</b>	185000	20000	205000
		<b>International Students (USD equivalent to INR)</b>	280000	20000	300000
11.	<b>ASSESSMENT</b>	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% component as external [University] examination.			
12.	<b>STANDARD OF PASSING</b>	The assessment of students for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be			

		declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10CGPA for the programme.
13.	<b>AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE</b>	Master of Technology (Electronics and Telecommunication Engineering) will be awarded at the end of semester IV examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA.

**14. NATURE WISE DISTRIBUTION OF CREDITS**

Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	17	9	0	0	0	0	26
2	17	9	0	0	0	1*	26
3	14	0	0	0	0	1	14
4	14	0	0	0	0	0	14
<b>Total</b>	<b>62</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>80</b>

\* Satisfactory completion of the non letter- grade courses 'Integrated Disaster Management' and 'Research Publication' is mandatory for award of degree.

The revised programme structure supersedes the previously approved programme structure dated 09/03/2020 for the programme.

Programme Structure is approved by the Academic Council subject to its norms & conditions. Any provision in the Programme Structure which violates the basic rules & regulations is deemed to be termed "Null & Void".

Head-Academics

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**Annexure A**

Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Semester : 1</b>									
<b>Generic Core Courses</b>									
T7086	070143101	Advanced Digital Signal Processing		4	120	80	0	0	200
T7100	070143102	Mechatronics		4	120	80	0	0	200
T7805	070143103	Green Electronics		2	100	0	0	0	100
T7674	070143104	Cyber Security		2	100	0	0	0	100
T7687	070143105	Seminar		2	100	0	0	0	100
T7087	070143106	Advanced Digital Signal Processing Lab		1	0	0	30	20	50
T7101	070143107	Mechatronics Lab		1	0	0	30	20	50
TE7113	070143108	Communication Skill Lab		1	0	0	30	20	50
<b>Total</b>				<b>17</b>	<b>540</b>	<b>160</b>	<b>90</b>	<b>60</b>	<b>850</b>
<b>Generic Elective Courses Group</b>									
TE7114	070143109	Real Time Operating System		4	120	80	0	0	200
TE7115	070143110	CMOS VLSI Design		4	120	80	0	0	200
TE7116	070143111	Advanced Wireless Communication		4	120	80	0	0	200
TE7117	070143112	Algorithm Design & Analysis		4	120	80	0	0	200
<b>Total Required Credits</b>				<b>4</b>	<b>120</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>200</b>
<b>Generic Elective Courses Group</b>									
TE7118	070143113	Real Time Operating System Lab		1	0	0	30	20	50
TE7119	070143114	CMOS VLSI Design Lab		1	0	0	30	20	50
TE7120	070143115	Advanced Wireless Communication Lab		1	0	0	30	20	50
TE7121	070143116	Algorithm Design & Analysis Lab		1	0	0	30	20	50
<b>Total Required Credits</b>				<b>1</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>20</b>	<b>50</b>
<b>Generic Elective Courses Group</b>									
T7109	070143117	Radar and Remote Sensing		4	120	80	0	0	200
TE7123	070143118	Neural Network		4	120	80	0	0	200
T7098	070143119	Lasers and Optical Electronics		4	120	80	0	0	200
TE7122	070143120	VLSI Digital Signal Processing		4	120	80	0	0	200
<b>Total Required Credits</b>				<b>4</b>	<b>120</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>200</b>



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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
<b>Semester : 2</b>									
<b>Generic Core Courses</b>									
T7093	070143201	Digital Image Processing		4	120	80	0	0	200
F7001	070143202	Advanced Embedded System Design		4	200	0	0	0	200
T7026	070143203	Research Methodology in Engineering		3	150	0	0	0	150
T7802	070143204	Electronics for Smart Cities		2	100	0	0	0	100
T7687	070143205	Seminar		2	100	0	0	0	100
T7094	070143206	Digital Image Processing Lab		1	0	0	30	20	50
TE7124	070143207	Technical writing Lab		1	0	0	30	20	50
T4005	070143208	Integrated Disaster Management *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>17</b>	<b>670</b>	<b>80</b>	<b>60</b>	<b>40</b>	<b>850</b>
<b>Generic Elective Courses Group</b>									
TE7125	070143209	Mobile Robotics		4	120	80	0	0	200
TE7126	070143210	IOT and Applications		4	120	80	0	0	200
TE7128	070143211	CAD for VLSI Design		4	120	80	0	0	200
T7103	070143212	Mobile ad hoc Networks		4	120	80	0	0	200
<b>Total Required Credits</b>				<b>4</b>	<b>120</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>200</b>
<b>Generic Elective Courses Group</b>									
T7597	070143213	Mobile ad hoc Networks Lab		1	0	0	30	20	50
TE7129	070143214	Mobile Robotics Lab		1	0	0	30	20	50
TE7130	070143215	IOT and Applications Lab		1	0	0	30	20	50
TE7132	070143216	CAD for VLSI Design Lab		1	0	0	30	20	50
<b>Total Required Credits</b>				<b>1</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>20</b>	<b>50</b>
<b>Generic Elective Courses Group</b>									
TE7133	070143217	System on Chip Architecture		4	120	80	0	0	200
TE7134	070143218	Low Power VLSI Design		4	120	80	0	0	200
TE7135	070143219	High Speed Communication Networks		4	120	80	0	0	200
TE7136	070143220	Deep Learning		4	120	80	0	0	200
<b>Total Required Credits</b>				<b>4</b>	<b>120</b>	<b>80</b>	<b>0</b>	<b>0</b>	<b>200</b>
<b>Semester : 3</b>									
<b>Generic Core Courses</b>									



Celebrating 50 Years of Excellence

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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
TE7710	070143301	Dissertation Phase 1		10	300	200	0	0	500
F7014	070143302	ARM Cortex Architecture and Programming		4	200	0	0	0	200
T0100	070143303	Research Publication *		0	0	0	0	0	Non Letter Grade
<b>Total</b>				<b>14</b>	<b>500</b>	<b>200</b>	<b>0</b>	<b>0</b>	<b>700</b>
<b>Semester : 4</b>									
<b>Generic Core Courses</b>									
TE7714	070143401	Dissertation Phase 2		14	420	280	0	0	700
<b>Total</b>				<b>14</b>	<b>420</b>	<b>280</b>	<b>0</b>	<b>0</b>	<b>700</b>



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Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester 1	6	20	26	1300
Semester 2	11	15	26	1300
Semester 3	4	10	14	700
Semester 4	0	14	14	700
<b>Total</b>	<b>21</b>	<b>59</b>	<b>80</b>	<b>4000</b>