Symbiosis Institute of Technology, Pune
Master of Technology (Robotics and Automation)
Programme Structure 2025-2027

<table>
<tr><td>1.</td><td>OBJECTIVE</td><td colspan="4">M.Tech (Robotics and Automation) is a full-time two-year post-graduation programme, which aims at transforming a student into a technically sound professional. This programme aims at providing the students with appropriate theoretical inputs along with adequate hands-on training. The programme includes hands-on experience on Robotics and Automation by theory & practice, development of analytical skills, modelling and simulation skills to identify and analyse problems, propose, and execute solutions in well-equipped labs and training on latest equipment. The syllabus contains cross disciplinary courses such as artificial intelligence, machine learning, Internet of Things in addition to the domain specific professional courses. The mix of these courses has been evolved with an aim to produce professionals who have knowledge not only of Engineering but who are good managers to contribute in a cross-functional team and have human values.
The emphasis is to develop all round personality that would enable the students to take up the challenges of the corporate world and become responsible citizens of the society.</td></tr>
<tr><td>2.</td><td>DURATION (IN MONTHS)</td><td colspan="4">24 (Full Time)</td></tr>
<tr><td>3.</td><td>INTAKE</td><td colspan="4">18</td></tr>
<tr><td rowspan="4">4.</td><td rowspan="4">RESERVATION</td><td rowspan="2">I.Within the sanctioned intake</td><td>a) SC (In Percentage)</td><td>b) ST (In Percentage)</td><td>c) Differently abled (In Percentage)</td></tr>
<tr><td>15</td><td>7.5</td><td>3</td></tr>
<tr><td rowspan="2">II.Over and above the sanctioned intake</td><td colspan="2">a) Kashmiri Migrants (In Seats)</td><td colspan="2">b) International Students (In Percentage)</td></tr>
<tr><td colspan="2">2</td><td colspan="2">25</td></tr>
<tr><td>5.</td><td>ELIGIBILITY</td><td colspan="4">B.Tech./ B.E. in Mechanical /Electronics and Communication/ Computer Science/ Information Technology and other related disciplines with minimum four years duration from any recognized University/Institution of National Importance with a minimum of 50% marks or equivalent grade (45% Marks or equivalent grade for Scheduled Caste/Scheduled Tribes)</td></tr>
<tr><td>6.</td><td>SELECTION PROCEDURE</td><td colspan="4">Both GATE qualified and non-GATE candidates are eligible to take admission in M.Tech (Robotics and Automation) Program, as per the following criteria:
1. GATE Qualified candidates:
Selection will be based on GATE Score
2. Non-Gate Qualified candidates:
An entrance examination will be conducted at SIT and selection will be based on the entrance examination score.</td></tr>
<tr><td>7.</td><td>MEDIUM OF INSTRUCTION</td><td colspan="4">English</td></tr>
<tr><td>8.</td><td>PROGRAMME PATTERN</td><td colspan="4">Semester</td></tr>
<tr><td>9.</td><td>COURSE &</td><td colspan="4">As per Annexure A</td></tr>
</table>

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	SPECIALISATION				
10.	**FEE**		**Academic Fee p.a**	**Institute Deposit**	**Total**
	Indian Students (Amount in INR)		185000	20000	205000
	International Students	**NRI/ PIO/ OCI Category (Amount in US$)**	3650	275	3925
		Foreign National Category (Amount in US$)	1950	275	2225
11.	**ASSESSMENT**	The courses will have 60% Continuous Assessment and 40% End Semester Examination however, some courses (not more than 30% of the total programme credits) may have 100% Continuous Assessment.			
12.	**STANDARD OF PASSING**	The assessment of the student 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 Continuous Assessment and End Semester 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 10 CGPA for the programme.			
13.	**AWARD OF DEGREE**	Master of Technology (Robotics and Automation) will be awarded at the end of semester 4 examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA.			
14.	**CLASSIFICATION OF CREDITS**				

Semester	**Generic Core**	**Generic Elective**	**Specialisa-tion Core**	**Specialisa-tion Elective**	**Open Elective**	**Mandatory Non-Credit Course/s**	**Non-Credit Audit Course/s**	**Total**
Common								
1	19	3	0	0	0	0	As per the student's choice	22
2	21	3	0	0	0	0		24
3	16	0	0	0	0	2 *		16
4	18	0	0	0	0	0		18
Total	**74**	**6**	**0**	**0**	**0**	**0**		**80**

* Satisfactory completion of non credit courses 'Health and Wellness' and '*Vasudhaiva Kutumbakam*' is mandatory for award of degree.

The revised programme structure supersedes the previously approved programme structure dated 03/03/2026 for the programme.

Additional Note: #Health and Wellness Module I and Module II will be conducted during the semesters mentioned in the programme structure. However, the course will be listed on the students' grade sheets as "Health and Wellness" in the semester in which the institute's course code is officially assigned.

This Programme Structure is aligned with the norms laid down by the University and is approved by the Academic Council.
Hereafter changes (if any) which conform to the policy on "Curriculum Development and Review" would be permissible, subject to revision of the Programme Structure, following the specified processes.

Director - Academics

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Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Teaching Scheme			Practical		Examination Scheme Marks		Total Credits	Total
				L	T	Lab	CA	ESE	CA	ESE		
Semester : 1												
Generic Core Courses												
TEE7233	0701480101	Applied Mathematics	BS	2	0	0	0	0	60	40	2	100
TEE7035	0701480102	Research Methodology in Engineering	PC	2	0	0	0	0	100	0	2	100
TEE7359	0701480103	Robotic Systems	PC	2	0	2	30	20	60	40	3	150
TEE7349	0701480104	Embedded Systems and Applications	PC	2	0	2	30	20	60	40	3	150
TEE7353	0701480105	Machine Learning and Deep Learning in Robotics	PC	2	0	2	30	20	60	40	3	150
TEE7352	0701480106	IoT and Mechatronics	PC	2	0	2	30	20	60	40	3	150
TEE7344	0701480107	Concepts of Programming	PC	0	0	4	60	40	0	0	2	100
TE7594	0701480108	Additive Manufacturing Lab	PC	0	0	2	30	20	0	0	1	50
TH4788		Health and Wellness Module I #	MC	0	0	0	0	0	0	0	0	0
Total				**12**	**0**	**14**	**210**	**140**	**400**	**200**	**19**	**950**
Generic Elective Course Group (Choose any one Course)												
TEE7343	0701480109	Computational Structures and Algorithms	PE	2	0	2	30	20	60	40	3	150
TEE7360	0701480110	Signal Processing and Applications	PE	2	0	2	30	20	60	40	3	150
TEE7338	0701480111	Advanced Hydraulics and Pneumatics	PE	2	0	2	30	20	60	40	3	150
Total Required Credits							**30**	**20**	**60**	**40**	**3**	**150**
Semester : 2												
Generic Core Courses												
TEE7356	0701480201	Programmable and Supervisory Controllers	PC	2	0	2	30	20	60	40	3	150
TEE7339	0701480202	Autonomous Systems	PC	2	0	2	30	20	60	40	3	150
TEE7355	0701480203	Natural Language Processing for Robotics	PC	2	0	2	30	20	60	40	3	150
TEE7354	0701480204	Machine Vision for Robotics	PC	2	0	2	30	20	60	40	3	150
TEE7337	0701480205	Advanced Control Systems	PC	2	0	2	30	20	60	40	3	150
THM6149	0701480206	Advanced Technical and Professional Communication Skills	PC	0	0	2	50	0	0	0	1	50
TE7586	0701480207	Mechanisms and Robotics Lab	PC	0	0	2	30	20	0	0	1	50
TE7569	0701480208	Modelling and Simulation Lab	PC	0	0	4	60	40	0	0	2	100
TE7656	0701480209	Strategic Project Management	PC	2	0	0	0	0	100	0	2	100
TH4789		Health and Wellness Module II #	MC	0	0	0	0	0	0	0	0	0

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Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Teaching Scheme			Practical		Examination Scheme Marks		Total Credits	Total
				L	T	Lab	CA	ESE	CA	ESE		
Total				**12**	**0**	**18**	**290**	**160**	**400**	**200**	**21**	**1050**
Generic Elective Course Group (Choose any one Course)												
TEE7358	0701480210	Reinforcement Learning for Robotics	PC	2	0	2	30	20	60	40	3	150
TEE7345	0701480211	Database Management System	PC	2	0	2	30	20	60	40	3	150
TEE7346	0701480212	Drone Technology	PC	2	0	2	30	20	60	40	3	150
Total Required Credits							**30**	**20**	**60**	**40**	**3**	**150**
Semester : 3												
Generic Core Courses												
T7710	0701480301	Dissertation Phase 1	PIS	0	0	20	300	200	0	0	10	500
F7132	0701480302	Responsible and Safe AI Systems	PC	4	0	0	0	0	200	0	4	200
F7133	0701480303	Mobile Virtual Reality and Artificial Intelligence	PC	2	0	0	0	0	100	0	2	100
SMC001	0701480304	*Vasudhaiva Kutumbakam* *	MC	0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
SMC003	0701480305	Health and Wellness *	MC	0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total				**6**	**0**	**20**	**300**	**200**	**300**	**0**	**16**	**800**
Semester : 4												
Generic Core Courses												
T7714	0701480401	Dissertation Phase 2	PIS	0	0	28	420	280	0	0	14	700
F0002	0701480402	Flexi-Credit Course	PC	2	0	0	0	0	100	0	2	100
TE7935	0701480403	Research Paper Writing	PC	2	0	0	0	0	100	0	2	100
Total				**4**	**0**	**28**	**420**	**280**	**200**	**0**	**18**	**900**

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Annexure A

Abbreviations (Nature)

BS	Basic Sciences
ES	Engineering Sciences
HS	Humanities and Social Sciences
OE	Open Electives
PC	Professional Core
PE	Professional Elective
PIS	Project, Internship, Seminar
PD	Professional Development Course
MC	Mandatory Course
L	Lecture
T	Tutorial
CA	Continuous Assessment
ESE	End Semester Examination
GE	Generic Elective

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Semester	Continuous Assessment	End Semester Examination	Total Credits	Total Marks
Semester 1	2	20	22	1100
Semester 2	3	21	24	1200
Semester 3	6	10	16	800
Semester 4	4	14	18	900
Total	**15**	**65**	**80**	**4000**