

Name of the Institute: Symbiosis Institute of Technology, Pune

Name of the Programme: B.Tech (Electronics and Telecommunications)

Programme Structure Revision

Institute Code	Institute Name	Programme Code	Program Name	Catalog Course Code	Catalog Course Name	Course Type	Batch 2020	Batch 2021	Change in T-Code Title / No	Change in course/Nature	Change in Pedagogy	Change in evaluation	Change in instruction method	Add on course	Changes Yes: Revised No: Not Revised
701	SIT, Pune	70123	B. Tech.	F7011	Digital	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	GEN002	Project	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	GEN003	Internship	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	GEN005	Non	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T2228	Business	Core	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T2585	Organizati	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T2618	Project	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T2646	Entrepren	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T2658	Design	Core	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T3276	Digital	Core	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T4005	Integrated	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6004	Organizati	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T6184	Basic	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6186	Basic	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6188	Basic	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6737	Critical	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6749	Design	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6760	Introducti	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6761	Foundatio	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T6773	Creative	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6774	Principles	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T6872	Foundatio	Elective	Base PS	Added	Yes	Yes				Yes	Added
701	SIT, Pune	70123	B. Tech.	T7020	Nanotech	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T7086	Advanced	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7094	Digital	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7100	Mechatrol	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7112	VLSI	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7381	Chemistry	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7382	Chemistry	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7383	Communi	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7384	Communi	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7391	Physics	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7392	Physics	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7393	Computer	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7394	Smart	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T7473	Artificial	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7474	Basics of	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7482	Computer	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7499	Java	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7509	Open	Elective	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	T7529	Machine	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7536	Analog	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7540	Basic	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7547	Control	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7548	Control	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7552	Digital	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7558	Digital	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7559	F	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7562	Electroma	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7567	Embedde	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7574	MATLAB	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7579	Microwav	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7580	Microwav	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7583	Power	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7584	Printed	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7593	Basic	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7616	Fundame	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7650	Six Sigma	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7674	Cyber	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7801	Advanced	Core	Base PS	Added	Yes					Yes	Added
701	SIT, Pune	70123	B. Tech.	T7802	Electronic	Core	Base PS	Added	Yes					Yes	Added
701	SIT, Pune	70123	B. Tech.	T7805	Green	Core	Base PS	Added	Yes					Yes	Added
701	SIT, Pune	70123	B. Tech.	T7908	Computer	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7925	Engineeri	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	T7928	Automati	Core	Base PS	Dropped	Yes						Dropped
701	SIT, Pune	70123	B. Tech.	TE7014	Artificial	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7029	Principles	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7039	Modern	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7045	IoT and	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7048	IoT and	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7050	Biomedical	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7056	Mobile	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7083	Signals	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7084	Analog	Core	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7085	Power	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7088	Digital	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7089	Modern	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7090	Antenna	Elective	Base PS	No	No						No
701	SIT, Pune	70123	B. Tech.	TE7091	Antenna	Elective	Base PS	No	No						No



701	SIT, Pune	70123	B.Tech.	TE7125	Mobile	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7132	CAD for	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7168	Engineeri	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7169	Engineeri	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7170	Engineeri	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7171	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7174	Probabilit	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7177	Applicatio	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7188	Environm	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7195	GIS	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7203	Intelligent	Elective		Added	Yes								Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7204	Intelligent	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7206	IOT for	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7207	IOT for	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7220	Smart	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7223	Smart	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7234	Urban	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7240	Water	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7247	Business	Core		Added	Yes								Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7263	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7264	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7265	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7266	Introducti	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7268	Introducti	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7269	IOT	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7271	Machine	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7273	Machine	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7274	Machine	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7281	Open	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7284	Power BI	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7286	Program	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7287	Program	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7290	Project	Core		Added	Yes								Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7291	Project	Core		Added	Yes								Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7292	R	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7293	Raspberry	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7295	Software	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7298	System	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7300	Tinker Lab	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7302	Adaptive	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7303	Adaptive	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7304	Advanced	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7305	Advanced	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7306	Biomedica	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7307	Biomedica	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7308	Biomedica	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7309	Biomedica	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7310	Computati	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7311	Computati	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7313	Devices	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7314	Devices	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7315	Digital	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7316	Digital	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7317	Digital	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7318	Digital	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7319	Electrical	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7320	Electronic	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7321	Electronic	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7322	Electronic	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7323	Electronic	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7324	Electronic	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7325	Embedde	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7326	Fiber	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7327	Fiber	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7330	Industrial	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7333	Introducti	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7334	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7335	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7336	Network	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7337	Optical	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7338	Principles	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7339	Renewabl	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7340	Scientific	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7341	Scientific	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7342	Speech	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7343	Speech	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7344	Sustainabl	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7345	Theory of	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7346	Wind	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7347	Wireless	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7348	Wireless	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7351	3D	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7355	Basics of	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7376	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7377	Introducti	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7387	Project	Elective		Added	Yes								Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7388	Quality	Elective	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7396	Software	Core	Base PS	No	No									No
701	SIT, Pune	70123	B.Tech.	TE7425	Principles	Core	Base PS	No	No									No



वसुधैव कुटुम्बकम्

SIT

Handwritten signature

701	SIT, Pune	70123	B.Tech.	TE7426	Electronic	Core	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7427	Embedde	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7428	Introducti	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7429	Informati	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7430	Computer	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7431	Wireless	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7432	Optical	Core	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7433	Optical	Core	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7435	Automoti	Core	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7438	History of	Elective	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TE7580	Vehicle	Core	Base PS	Dropped	Yes							Dropped
701	SIT, Pune	70123	B.Tech.	TE7665	Automoti	Core		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7666	Automoti	Core		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7669	Hybrid	Core		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7698	TE7698	Elective		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7700	TE7700	Elective		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TE7756	TE7756	Elective		Added	Yes						Yes	Added
701	SIT, Pune	70123	B.Tech.	TH4095	Smart	Core	Base PS	No	No							No
701	SIT, Pune	70123	B.Tech.	TH4272	Certificate	Core		Added	Yes						Yes	Added

Total no of Courses: 187

Revision in courses: 27

% Revision: 14.43%



॥ वसुधैव कुटुम्बकम् ॥

SIT

SYMBIOSIS INSTITUTE OF TECHNOLOGY

Symbiosis International (Deemed University)

(Established under section 3 of the UGC Act, 1956)

Re-accredited by NAAC with 'A' grade (3.58/4) | Awarded Category - I by UGC

Founder: Prof. Dr. S. B. Mujumdar, M. Sc., Ph. D. (Awarded Padma Bhushan and Padma Shri by President of India)



Celebrating 50 Years of Excellence

Percentage of Programmes where syllabus revision was carried out from AY 2020-21 to 2021-22

Name of the Institute: Symbiosis Institute of Technology, Pune

Name of the Programme: Bachelor of Technology (Electronics and Telecommunication Engineering)

Index

Academic Year	Particulars	Page no
2020-2021	Approved Programme Structure 2020-24	5-39
2021-2022	Approved Programme Structure 2021-25	40-76

Director

Symbiosis Institute of Technology, Pune





SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

Re - accredited by NAAC with 'A' Grade

Founder: Prof. Dr. S. B. Mujumdar, M.Sc.,Ph.D. (Awarded Padma Bhushan and Padma Shri by President of India)

SIU/U-110(SIT, Pune)/2020/2035 (A)

Date: 27/06/2020

To
The Director
Symbiosis Institute of Technology, Pune

Subject: Approval of the Programme Structure/s for the academic year 2020-2021

Dear Sir/Madam,

This is to inform you that the following Programme Structure has been duly approved by the Academic Council for the Academic Year 2020-2021.

Sr.No.	Programme	Batch
1	Bachelor of Technology (Electronics & Tele-Communication Engineering)	2020-2024

You may download the same using your login credentials using the link and the path mentioned-

Link: <http://eduwiz.intechsolutionspune.in/eduwiz/login.html>

Path: [Academics->Catalogue->Programme Structure-> View Course Structure -> Select Institute -> Select Academic Year -> Select Programme -> Select Batch -> Show Course Structure -> Print Programme Structure.](#)

.....
..

.....
.....
..
.....



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

1. OBJECTIVE	<p>B.Tech is a full-time four year graduation programme, which aims at transforming a student into a technically sound professional. The syllabus contains courses on basic sciences, technical arts, humanities & liberal arts and 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.</p> <p>Being a professional programme it ensures a healthy balance between theoretical foundation and practical exposure to the present day world.</p> <p>The emphasis is to develop all round personality that would enable the students to take up the challenges of the corporate world and also become responsible citizens of the society.</p>			
2. DURATION (IN MONTHS)	48 (Full Time)			
3. INTAKE	120			
4. RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)
		15	7.5	3
	II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)		b) International Students (In Percentage)
		2		15
5. ELIGIBILITY	<p>Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of Chemistry/ Biotechnology/ Biology/ Technical Vocational subjects. Obtained at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) in the above subjects taken together.</p> <p>B. Tech (Lateral entry to second year) :</p> <p>a) Passed Diploma examination from an AICTE approved Institution; with at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) in appropriate branch of Engineering / Technology.</p>			





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

		<p>b) Passed B.Sc. Degree from a recognized University as defined by UGC, with at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) and passed XII standard with mathematics as a subject.</p> <p>c) Provided that in case of students belonging to B. Sc. Stream, shall clear the subjects of Engineering Graphics / Engineering Drawing and Engineering Mechanics of the first year Engineering program along with the second year subjects.</p> <p>d) Provided further that, the students belonging to B. Sc. Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.</p> <p>e) Provided further that students, who have passed Diploma in Engineering and Technology from an AICTE approved Institution or B. Sc. Degree from a recognized University as defined by UGC, shall also be eligible for admission to the first year Engineering Degree courses subject to vacancies in the first year class in case the vacancies at lateral entry are exhausted. However the admissions shall be based strictly on the eligibility criteria as mentioned in a, b, c, and d above.</p>
6.	SELECTION PROCEDURE	Merit list by a valid score of Symbiosis Entrance Test (SIT EEE) or Joint Entrance Examination (JEE - Mains) or All States Engineering Entrance Test.
7.	MEDIUM OF INSTRUCTION	English
8.	PROGRAMME PATTERN	Semester
9.	COURSE & SPECIALIZATION	<p>Annexure A: Bachelor of Technology (Electronics and Tele-Communication Engineering)</p> <p>Students may pursue optional 'Honours' OR 'Minor' specialization in one of the specialization areas by completing additional 20 credits in Semester: 5, 6 and 7 as specified in Annexure B for Honours and Annexure C for Minor in the respective specialization area.</p> <p>Annexure B: Optional 'Honours' specialization area</p> <ol style="list-style-type: none"> 1. Bioelectronics Systems 2. Embedded Systems 3. Mechatronics and Automation 4. Optoelectronics and Communication 5. Signal Processing 6. Sustainable Energy Devices and Systems <p>Annexure C: Optional 'Minor' specialization area</p>





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

		1.Artificial Intelligence and Machine Learning (CSE) 2.Data Science (CSE) 3.Internet of Things (CSE) 4.Smart Cities and Urban Analytics (CE) 5.Automobile Engineering with Hybrid and Autonomous Technology (ME)			
10.	FEE		Academic Fee p.a	Institute Deposit	Total
		Indian Students	260000	20000	280000
		International Students (USD equivalent to INR)	390000	20000	410000
11.	ASSESSMENT	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. The internal and external will be separate heads of passing.			
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 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 10 CGPA for the programme.			
13.	AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE	Bachelor of Technology (Electronics and Tele-Communication Engineering) OR Bachelor of Technology (Electronics and Tele-Communication Engineering) with Honours in Bioelectronics Systems / Embedded Systems / Mechatronics and Automation / Optoelectronics and Communication / Signal Processing / Sustainable Energy Devices and Systems. OR Bachelor of Technology (Electronics and Tele-Communication Engineering) with Minor in Artificial Intelligence and Machine Learning /Data Science/ Internet of Things / Smart Cities and Urban Analytics/ Automobile Engineering with Hybrid and Autonomous Technology			



will be awarded at the end of semester VIII 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	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	19	0	0	0	0	0	19
2	19	2	0	0	0	0	21
3	19	1	0	0	0	2*	20
4	24	0	0	0	0	1*	24
5	20	4	0	0	0	0	24
6	18	4	0	0	3	0	25
7	8	10	0	0	5	0	23
8	14	0	0	0	0	0	14
Total	141	21	0	0	8	0	170
Optional Additional Courses (Honours)							
Total	0	0	20	0	0	0	20
Optional Additional Courses (Minor)							
Total	0	0	20	0	0	0	20
Grand Total							190

* Satisfactory completion of the non letter grade courses 'Integrated Disaster Management', 'Fitness for Life', 'Certificate in COVID-19 Care for the Community' is mandatory for the award of degree.

Note: For additional specializations (optional) as applicable, fees of Rs.25000/- will be charged, additionally in the third year

The revised programme structure supersedes the previously approved programme structure dated 14/03/2022 for the programme.

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.

Head - Academics

THIS IS SYSTEM GENERATED DOCUMENT AND REQUIRES NO SIGNATURE.



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TE7168	0701230101	Engineering Mathematics -I	BS		3	1	0	0	0	40	60	4	100
T7391	0701230102	Physics	BS		3	0	0	0	0	30	45	3	75
T7392	0701230103	Physics lab	BS		0	0	2	10	15	0	0	1	25
T7383	0701230104	Communication Skills	HS		2	0	0	0	0	20	30	2	50
T7384	0701230105	Communication skills lab	HS		0	0	2	10	15	0	0	1	25
TE7188	0701230106	Environmental Science	ES		2	0	0	0	0	20	30	2	50
TE7286	0701230107	Programming and Problem Solving	ES		2	0	0	0	0	20	30	2	50
TE7287	0701230108	Programming and Problem Solving Lab	ES		0	0	2	10	15	0	0	1	25
TE7310	0701230109	Computational Techniques I	0		2	0	0	0	0	50	0	2	50
T6773	0701230110	Creative Thinking	HS		1	0	0	0	0	25	0	1	25
Total					15	1	6	30	45	205	195	19	475
Semester : 2													
Generic Core Courses													
TE7169	0701230201	Engineering Mathematics -II	BS		3	1	0	0	0	40	60	4	100
T7540	0701230202	Basic Electrical and Electronics Engineering	ES		3	0	0	0	0	30	45	3	75
T7593	0701230203	Basic Electrical and Electronics Engineering Lab	ES		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7381	0701230204	Chemistry	BS		3	0	0	0	0	30	45	3	75
T7382	0701230205	Chemistry Lab	BS		0	0	2	10	15	0	0	1	25
TE7311	0701230206	Computational Techniques II	ES		3	0	0	0	0	75	0	3	75
T7925	0701230207	Engineering Graphics Lab	ES		0	0	4	20	30	0	0	2	50
T6732	0701230208	Critical Thinking	HS		1	0	0	0	0	25	0	1	25
TE7396	0701230209	Software Tools	ES		0	0	2	25	0	0	0	1	25
Total					13	1	10	65	60	200	150	19	475
Generic Elective Courses Group													
T6184	0701230210	Basic German I	GE		2	0	0	0	0	50	0	2	50
T6186	0701230211	Basic French I	GE		2	0	0	0	0	50	0	2	50
T6188	0701230212	Basic Spanish I	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Semester : 3													
Generic Core Courses													
F7011	0701230301	Digital Circuits and Logic Design	PC		4	0	0	0	0	100	0	4	100
TE7083	0701230302	Signals and Systems	PC		3	0	0	0	0	30	45	3	75
TE7170	0701230303	Engineering Mathematics-III	BS		2	1	0	0	0	30	45	3	75
TE7320	0701230304	Electronic Devices and Circuits	PC		3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7321	0701230305	Electronic Devices and Circuits Lab	PC		0	0	2	10	15	0	0	1	25
TE7336	0701230306	Network Theory	PC		3	0	0	0	0	30	45	3	75
T2646	0701230307	Entrepreneurship Venture	HS		1	0	0	0	0	25	0	1	25
TE7322	0701230308	Electronic Measurements Lab	PC		0	0	2	10	15	0	0	1	25
TH4095	0701230309	Fitness for Life *			0	0	0	0	0	0	0	Non Letter Grade	0
TH4272	0701230312	Certificate in COVID-19 Care for the Community *			0	0	0	0	0	0	0	Non Letter Grade	0
Total					16	1	4	20	30	245	180	19	475
Generic Elective Courses Group													
T6760	0701230310	Introduction to Indian Philosophy	GE		1	0	0	0	0	25	0	1	25
T6761	0701230311	Foundation of Ethics	GE		1	0	0	0	0	25	0	1	25
Total Required Credits								0	0	25	0	1	25
Semester : 4													
Generic Core Courses													
T7547	0701230401	Control Systems	PC		3	1	0	0	0	40	60	4	100
T7548	0701230402	Control Systems Lab	PC		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7562	0701230403	Electromagnetic Field Theory	PC		3	1	0	0	0	40	60	4	100
TE7084	0701230404	Analog Circuit Design	PC		3	0	0	0	0	30	45	3	75
T7536	0701230405	Analog Circuit Design Lab	PC		0	0	2	10	15	0	0	1	25
TE7300	0701230410	Tinker Lab	ES		0	0	4	50	0	0	0	2	50
F7023	0701230406	Data Structures Using C	PC		3	0	0	0	0	75	0	3	75
TE7425	0701230407	Principles of Communication	PC		3	0	0	0	0	30	45	3	75
TE7029	0701230408	Principles of Communication Lab	PC		0	0	2	10	15	0	0	1	25
TE7290	0701230409	Project Based Learning -I	PIS		0	0	4	50	0	0	0	2	50
T4005	0701230411	Integrated Disaster Management *	0		0	0	0	0	0	0	0	Non Letter Grade	0
Total					15	2	14	130	45	215	210	24	600
Semester : 5													
Generic Core Courses													
T7558	0701230501	Digital Signal Processing	PC		3	1	0	0	0	40	60	4	100
T7559	0701230502	Digital Signal Processing Lab	PC		0	0	2	10	15	0	0	1	25
TE7316	0701230503	Digital Communication	PC		3	0	0	0	0	30	45	3	75
T7552	0701230504	Digital Communication Lab	PC		0	0	2	10	15	0	0	1	25
TE7174	0701230505	Probability, Random Variables and Stochastic Process	PC		3	0	0	0	0	30	45	3	75





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T8000	0701230506	Service Learning	HS		0	0	8	100	0	0	0	4	100
F7026	0701230507	Microcontrollers and Applications	PC		2	0	0	0	0	50	0	2	50
TE7291	0701230508	Project Based Learning-II	PIS		0	0	4	50	0	0	0	2	50
Total					11	1	16	170	30	150	150	20	500
Generic Elective Courses Group- I													
TE7090	0701230509	Antenna and Wave Propagation	PE		3	0	0	0	0	30	45	3	75
TE7323	0701230510	Electronic System Design	PE		3	0	0	0	0	30	45	3	75
TE7085	0701230511	Power Electronics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group- II													
TE7091	0701230512	Antenna and Wave Propagation Lab	PE		0	0	2	10	15	0	0	1	25
TE7324	0701230513	Electronic System Design Lab	PE		0	0	2	10	15	0	0	1	25
T7583	0701230514	Power Electronics Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Semester : 6													
Generic Core Courses													
F0004	0701230601	Flexi-Credit Course	PC		4	0	0	0	0	100	0	4	100
T7908	0701230602	Computer Networks	PC		3	0	0	0	0	30	45	3	75
T7482	0701230603	Computer Networks Lab	PC		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T6749	0701230604	Design Thinking	HS		2	0	0	0	0	50	0	2	50
T7802	0701230605	Project Based Learning-III	PIS		0	0	4	50	0	0	0	2	50
TE7426	0701230606	Electronic Design Workshop	PC		0	0	4	20	30	0	0	2	50
T7802	0701230607	Capstone Course	PC		2	0	0	0	0	50	0	2	50
T6774	0701230608	Principles of Economics	HS		2	0	0	0	0	50	0	2	50
Total					13	0	10	80	45	280	45	18	450
Generic Elective Courses Group - I													
T7580	0701230609	Microwaves and Radar	PE		3	0	0	0	0	30	45	3	75
TE7089	0701230610	Modern Control Theory	PE		3	0	0	0	0	30	45	3	75
TE7427	0701230611	Embedded System Design	PE		3	0	0	0	0	30	45	3	75
TE7088	0701230612	Digital Image Processing	PE		3	0	0	0	0	30	45	3	75
TE7315	0701230613	Digital CMOS VLSI Design	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - II													
T7579	0701230614	Microwave and Radar Lab	PE		0	0	2	10	15	0	0	1	25
TE7039	0701230615	Modern Control Theory Lab	PE		0	0	2	10	15	0	0	1	25
T7567	0701230616	Embedded System Design Lab	PE		0	0	2	10	15	0	0	1	25
T7094	0701230617	Digital Image Processing Lab	PE		0	0	2	10	15	0	0	1	25
TE7132	0701230618	CAD for VLSI Design Lab	PE		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total Required Credits					10	15	0	0	0	0	1	25	
Open Elective Courses Group													
T7574	0701230619	MATLAB	OE		3	0	0	0	0	30	45	3	75
TE7335	0701230620	Introduction to Robotics	OE		3	0	0	0	0	30	45	3	75
TE7339	0701230621	Renewable Energy Systems	OE		3	0	0	0	0	30	45	3	75
TE7428	0701230622	Introduction to Image Processing	OE		3	0	0	0	0	30	45	3	75
TE7223	0701230623	Smart Urban Planning	OE		3	0	0	0	0	30	45	3	75
TE7240	0701230624	Water Resource Planning and Management	OE		3	0	0	0	0	30	45	3	75
T7499	0701230625	Java	OE		3	0	0	0	0	30	45	3	75
TE7265	0701230626	Introduction to Data Science	OE		3	0	0	0	0	30	45	3	75
TE7263	0701230627	Introduction to AI and Machine Learning	OE		3	0	0	0	0	30	45	3	75
TE7388	0701230628	Quality Management Techniques	OE		3	0	0	0	0	30	45	3	75
TE7319	0701230629	Electrical and Electronics Materials	OE		3	0	0	0	0	30	45	3	75
TE7351	0701230630	3D Printing and Prototyping	OE		3	0	0	0	0	30	45	3	75
TE7387	0701230631	Project Management	OE		3	0	0	0	0	30	45	3	75
TE7698	0701230632	Nanotechnology	OE		3	0	0	0	0	30	45	3	75
T7393	0701230633	Computer Based Statistical Packages	OE		3	0	0	0	0	30	45	3	75
Total Required Credits					0	0	30	45	3	75			
Semester : 7													



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Generic Core Courses													
T7804	0701230701	B.Tech Project	PIS		0	0	8	40	60	0	0	4	100
T7674	0701230702	Cyber Security	PC		2	0	0	0	0	50	0	2	50
F0002	0701230703	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
Total					4	0	8	40	60	100	0	8	200
Generic Elective Courses Group - I													
T7473	0701230704	Artificial Intelligence	PE		3	0	0	0	0	30	45	3	75
TE7045	0701230705	IoT and Applications	PE		3	0	0	0	0	30	45	3	75
TE7326	0701230706	Fiber Optics And Satellite Communication	PE		3	0	0	0	0	30	45	3	75
TE7340	0701230707	Scientific Computing	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Course Group - II													
TE7014	0701230708	Artificial Intelligence Lab	PE		0	0	2	10	15	0	0	1	25
TE7048	0701230709	IoT and Applications Lab	PE		0	0	2	10	15	0	0	1	25
TE7327	0701230710	Fiber Optics And Satellite Communication Lab	PE		0	0	2	10	15	0	0	1	25
TE7341	0701230711	Scientific Computing Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Generic Elective Course Group - III													



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7306	0701230712	Biomedical Electronics	PE		3	0	0	0	0	30	45	3	75
TE7317	0701230713	Digital Control System	PE		3	0	0	0	0	30	45	3	75
TE7342	0701230714	Speech and Audio Signal Processing	PE		3	0	0	0	0	30	45	3	75
TE7347	0701230715	Wireless Communication	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Course Group - IV													
TE7307	0701230716	Biomedical Electronics Lab	PE		0	0	2	10	15	0	0	1	25
TE7318	0701230717	Digital Control System Lab	PE		0	0	2	10	15	0	0	1	25
TE7343	0701230718	Speech and Audio Signal Processing Lab	PE		0	0	2	10	15	0	0	1	25
TE7348	0701230719	Wireless Communication Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Open Elective Courses Group													
TE7171	0701230720	Introduction to Mathematical Modelling	OE		3	0	0	0	0	30	45	3	75
TE7195	0701230721	GIS Applications	OE		3	0	0	0	0	30	45	3	75
TE7203	0701230722	Intelligent Transportation Management	OE		3	0	0	0	0	30	45	3	75
TE7264	0701230723	Introduction to BIGDATA	OE		3	0	0	0	0	30	45	3	75
T7474	0701230724	Basics of Database	OE		3	0	0	0	0	30	45	3	75
T7616	0701230725	Fundamentals of Automotive Technology	OE		3	0	0	0	0	30	45	3	75
T7529	0701230726	Machine Learning	OE		3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7756	0701230727	Open Source Technologies	OE		3	0	0	0	0	30	45	3	75
T7584	0701230728	Printed Circuit Board (PCB) Design	OE		3	0	0	0	0	30	45	3	75
T7650	0701230729	Six sigma	OE		3	0	0	0	0	30	45	3	75
TE7700	0701230730	Smart Materials	OE		3	0	0	0	0	30	45	3	75
TE7334	0701230731	Introduction to Mechatronics	OE		3	0	0	0	0	30	45	3	75
TE7338	0701230732	Principles of Modern Communication Systems	OE		3	0	0	0	0	30	45	3	75
TE7376	0701230733	Introduction to Operations Research	OE		3	0	0	0	0	30	45	3	75
TE7377	0701230734	Introduction to Optimisation	OE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - V													
TE7429	0701230735	Information Theory and Coding	PE		2	0	0	0	0	20	30	2	50
TE7430	0701230736	Computer Architecture	PE		2	0	0	0	0	20	30	2	50
TE7431	0701230737	Wireless Sensor Network	PE		2	0	0	0	0	20	30	2	50
Total Required Credits								0	0	20	30	2	50
Generic Elective Courses Group - VI													
TE7438	0701230738	History of Science and Technology	GE		2	0	0	0	0	50	0	2	50
T2585	0701230739	Organizational Behaviour	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 8													
Generic Core Courses													
T7912	0701230801	Internship	PIS		0	0	24	120	180	0	0	12	300
T7802	0701230802	Seminar	PIS		0	0	4	50	0	0	0	2	50
Total					0	0	28	170	180	0	0	14	350

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



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24
Annexure A

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester 1	3	16	19	475
Semester 2	7	14	21	525
Semester 3	6	14	20	500
Semester 4	7	17	24	600
Semester 5	8	16	24	600
Semester 6	12	13	25	625
Semester 7	6	17	23	575
Semester 8	2	12	14	350
Total	51	119	170	4250



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Bioelectronics Systems Specialization Core Courses													
TE7333	0701230515	Introduction to Computer Vision	PC		4	0	0	0	0	40	60	4	100
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Embedded Systems Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7298	0701230518	System Programming	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Mechatronics and Automation Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7330	0701230519	Industrial Robotics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Optoelectronics and Communication Specialization Core Courses													
T7801	0701230516	Specialization Project	PC		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7345	0701230520	Theory of Light and Lasers	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Signal Processing Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
T7086	0701230521	Advanced Digital Signal Processing	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Sustainable Energy Devices and Systems Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7344	0701230522	Sustainable Energy And Solar Photovoltaic Systems	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 6													
Bioelectronics Systems Specialization Core Courses													
TE7308	0701230634	Biomedical Imaging Systems	PC		4	0	0	0	0	40	60	4	100
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Embedded Systems Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7325	0701230636	Embedded Linux	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 6													
Mechatronics and Automation Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7100	0701230637	Mechatronics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Optoelectronics and Communication Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7337	0701230638	Optical Devices and Fiber Optics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Signal Processing Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7112	0701230639	VLSI Digital Signal Processing System	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 6													
Sustainable Energy Devices and Systems Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7346	0701230640	Wind Energy Systems	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 7													
Bioelectronics Systems Specialization Core Courses													
TE7050	0701230740	Biomedical Instrumentation	PC		4	0	0	0	0	40	60	4	100
TE7309	0701230742	Biomedical Instrumentation Lab	PC		0	0	2	10	15	0	0	1	25
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Embedded Systems Specialization Core Courses													
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7304	0701230743	Advanced Microcontrollers and RTOS	PC		4	0	0	0	0	40	60	4	100
TE7305	0701230744	Advanced Microcontrollers and RTOS Lab	PC		0	0	2	10	15	0	0	1	25



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Mechatronics and Automation Specialization Core Courses													
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7125	0701230745	Mobile Robotics	PC		4	0	0	0	0	40	60	4	100
TE7056	0701230746	Mobile Robotics Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Optoelectronics and Communication Specialization Core Courses													
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7432	0701230747	Optical Communication Systems	PC		4	0	0	0	0	40	60	4	100
TE7433	0701230748	Optical Communication Systems Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Signal Processing Specialization Core Courses													



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7302	0701230749	Adaptive Signal Processing	PC		4	0	0	0	0	40	60	4	100
TE7303	0701230750	Adaptive Signal Processing Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Sustainable Energy Devices and Systems Specialization Core Courses													
T7802	0701230741	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7313	0701230751	Devices and Grid Systems for Sustainable Energy	PC		4	0	0	0	0	40	60	4	100
TE7314	0701230752	Devices and Grid Systems for Sustainable Energy Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure B
Optional 'Honours' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Bioelectronics Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Embedded Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Mechatronics and Automation				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Optoelectronics and Communication				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Signal Processing				
Semester 5	0	7	7	175
Semester 6	0	6	6	150



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24
Annexure B
Optional 'Honours' Specialization

Semester 7	0	7	7	175
Total	0	20	20	500
Sustainable Energy Devices and Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Artificial Intelligence and Machine Learning Specialization Core Courses													
TE7273	0701230523	Machine Learning: Classification	PC		3	0	0	0	0	30	45	3	75
TE7274	0701230524	Machine Learning: Regression	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 5													
Data Science Specialization Core Courses													
TE7281	0701230525	Open Source Tools for Data Science	PC		4	0	0	0	0	40	60	4	100
TE7292	0701230526	R Programming	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	70	105	7	175
Semester : 5													
Internet of Things Specialization Core Courses													
TE7268	0701230527	Introduction to IOT	PC		4	0	0	0	0	40	60	4	100
TE7293	0701230528	Raspberry Pi and Python	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	70	105	7	175



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Smart Cities and Urban Analytics Specialization Core Courses													
TE7220	0701230529	Smart Cities : Context Policy and Governance	PC		3	0	0	0	0	30	45	3	75
TE7206	0701230530	IOT for Smart Cities	PC		3	0	0	0	0	30	45	3	75
TE7207	0701230531	IOT for Smart Cities Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Automobile Engineering with Hybrid and Autonomous Technology Specialization Core Courses													
TE7355	0701230532	Basics of Automotive Engineering	PC		3	0	0	0	0	30	45	3	75
TE7665	0701230533	Automotive Electronics and Instrumentation	PC		2	0	0	0	0	50	0	2	50
TE7666	0701230534	Automotive Vehicle Dynamics and NVH Lab	PC		0	0	2	10	15	0	0	1	25
Total					5	0	2	10	15	80	45	6	150
Semester : 6													
Artificial Intelligence and Machine Learning Specialization Core Courses													
TE7266	0701230641	Introduction to Deep Learning	PC		4	0	0	0	0	40	60	4	100
TE7271	0701230642	Machine Learning Clustering and Retrieval	PC		3	0	0	0	0	30	45	3	75



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total					7	0	0	0	0	70	105	7	175
Semester : 6													
Data Science Specialization Core Courses													
TE7247	0701230643	Business Analytics	PC		3	0	0	0	0	30	45	3	75
TE7284	0701230644	Power BI	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 6													
Internet of Things Specialization Core Courses													
TE7269	0701230645	IOT Security and Privacy	PC		3	0	0	0	0	30	45	3	75
TE7295	0701230646	Software Defined Networking	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 6													
Smart Cities and Urban Analytics Specialization Core Courses													
T7802	0701230647	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701230648	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7177	0701230649	Application of Sensor Technology to Smart Cities	PC		3	0	0	0	0	30	45	3	75
Total					3	0	8	100	0	30	45	7	175
Semester : 6													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialization Core Courses													
TE7669	0701230650	Hybrid Technology	PC		2	0	0	0	0	20	30	2	50
F0002	0701230651	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
TE7435	0701230652	Automotive Engine and Transmission System	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	100	75	7	175
Semester : 7													
Artificial Intelligence and Machine Learning													
Specialization Core Courses													
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Data Science													
Specialization Core Courses													



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Internet of Things													
Specialization Core Courses													
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Smart Cities and Urban Analytics													
Specialization Core Courses													
T7803	0701230755	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
Specialization Elective : Smart Cities and Urban Analytics													
TE7205	0701230757	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7234	0701230756	Urban Hydrology and Hydraulics	PE		3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total Required Credits					0	0	10	50	75	0	0	3	75
Semester : 7													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialization Core Courses													
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24
Annexure C
Optional 'Minor' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Artificial Intelligence and Machine Learning				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	0	20	20	500
Data Science				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Internet of Things				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Smart Cities and Urban Analytics				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
Automobile Engineering with Hybrid and Autonomous Technology				
Semester 5	2	4	6	150
Semester 6	2	5	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2020-24
Annexure C
Optional 'Minor' Specialization

Semester 7	0	7	7	175
Total	4	16	20	500

Priti Shahane <pritis@sitpune.edu.in>



Fwd: First Approval Letter

1 message

Dr K Kotecha <director@sitpune.edu.in>
To: Priti Shahane <pritis@sitpune.edu.in>

Mon, Jan 30, 2023 at 3:17 PM

----- Forwarded message -----

From: head_academics@siu.edu.in <head_academics@siu.edu.in>

Date: Thu, Jul 29, 2021 at 3:53 PM

Subject: First Approval Letter

To: <director@sitpune.edu.in>, <coe@siu.edu.in>, <ar@siu.edu.in>, <dydirectoracademics@sitpune.edu.in>, <os_academics@siu.edu.in>, <head_academics@siu.edu.in>, <ar_academics@siu.edu.in>



SYMBIOSIS INTERNATIONAL (DEEMED UNIVERSITY)

(Established under section 3 of the UGC Act 1956)

Re - accredited by NAAC with 'A' Grade

Founder: Prof. Dr. S. B. Mujumdar, M.Sc.,Ph.D. (Awarded Padma Bhushan and Padma Shri by President of India)

SIU/U-110(SIT, Pune)/2021/2837

Date: 29/07/2021

To
The Director
Symbiosis Institute of Technology, Pune

Subject: Approval of the Programme Structure/s for the academic year 2021-2022

Dear Sir/Madam,

This is to inform you that the following Programme Structure has been duly approved by the Academic Council for the Academic Year 2021-2022.

Sr.No.	Programme	Batch
1	Bachelor of Technology (Electronics & Tele-Communication Engineering)	2021-2025

You may download the same using your login credentials using the link and the path mentioned-

Link:

<http://eduwiz.intechsolutionspune.in/eduwiz/login.html>

Path:

Academics->Catalogue->Programme Structure-> View Course Structure -> Select Institute -> Select Academic Year -> Select Programme -> Select Batch -> Show Course Structure -> Print Programme Structure.

Thanking you.

Sincerely,



Dr. Pravin Dange
Head- Academics

Copy to: Controller of Examinations, SIU

1 Of 1

--

K Kotecha, PhD(IIT Bombay)
Director, Symbiosis Institute of Technology (sitpune.edu.in)
Dean, Faculty of Engineering (siu.edu.in)
Head, Symbiosis Centre for Applied Artificial Intelligence(scaai.edu.in)
Symbiosis International (Deemed University), Pune 412115
Maharashtra, India



This email is governed by the Disclaimer Terms of SIU which may be viewed at <http://www.siu.edu.in/downloads/email-disclaimer.php>



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

1. OBJECTIVE	<p>B.Tech is a full-time four year graduation programme, which aims at transforming a student into a technically sound professional. The syllabus contains courses on basic sciences, technical arts, humanities & liberal arts and 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.</p> <p>Being a professional programme it ensures a healthy balance between theoretical foundation and practical exposure to the present day world.</p> <p>The emphasis is to develop all round personality that would enable the students to take up the challenges of the corporate world and also become responsible citizens of the society.</p>			
2. DURATION (IN MONTHS)	48 (Full Time)			
3. INTAKE	120			
4. RESERVATION	I. Within the sanctioned intake	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)
		15	7.5	3
	II. Over and above the sanctioned intake	a) Kashmiri Migrants (In Seats)		b) International Students (In Percentage)
		2		15
5. ELIGIBILITY	<p>Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of Chemistry/ Biotechnology/ Biology/ Technical Vocational subjects. Obtained at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) in the above subjects taken together.</p> <p>B. Tech (Lateral entry to second year) :</p> <p>a) Passed Diploma examination from an AICTE approved Institution; with at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) in appropriate branch of Engineering / Technology.</p>			





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

		<p>b) Passed B.Sc. Degree from a recognized University as defined by UGC, with at least 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste /Scheduled Tribes) and passed XII standard with mathematics as a subject.</p> <p>c) Provided that in case of students belonging to B. Sc. Stream, shall clear the subjects of Engineering Graphics / Engineering Drawing and Engineering Mechanics of the first year Engineering program along with the second year subjects.</p> <p>d) Provided further that, the students belonging to B. Sc. Stream shall be considered only after filling the supernumerary seats in this category with students belonging to the Diploma stream.</p> <p>e) Provided further that students, who have passed Diploma in Engineering and Technology from an AICTE approved Institution or B. Sc. Degree from a recognized University as defined by UGC, shall also be eligible for admission to the first year Engineering Degree courses subject to vacancies in the first year class in case the vacancies at lateral entry are exhausted. However the admissions shall be based strictly on the eligibility criteria as mentioned in a, b, c, and d above.</p>
6.	SELECTION PROCEDURE	Merit list by a valid score of Symbiosis Entrance Test (SIT EEE) or Joint Entrance Examination (JEE - Mains) or Any States Engineering Entrance Test.
7.	MEDIUM OF INSTRUCTION	English
8.	PROGRAMME PATTERN	Semester
9.	COURSE & SPECIALIZATION	<p>Annexure A: Bachelor of Technology (Electronics and Tele-Communication Engineering) Students may pursue optional 'Honours' OR 'Minor' specialization in one of the specialization areas by completing additional 20 credits in Semester: 5, 6 and 7 as specified in Annexure B for Honours and Annexure C for Minor in the respective specialization area.</p> <p>Annexure B: Optional 'Honours' specialization area</p> <ol style="list-style-type: none"> 1. Bioelectronics Systems 2. Embedded Systems 3. Mechatronics and Automation 4. Optoelectronics and Communication 5. Signal Processing 6. Sustainable Energy Devices and Systems





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

		Annexure C: Optional 'Minor' specialization area 1.Artificial Intelligence and Machine Learning (CSE) 2.Data Science (CSE) 3.Internet of Things (CSE) 4.Smart Cities and Urban Analytics (CE) 5.Automobile Engineering with Hybrid and Autonomous Technology (ME)			
10.	FEE		Academic Fee p.a	Institute Deposit	Total
		Indian Students	260000	20000	280000
		International Students (USD equivalent to INR)	390000	20000	410000
Note: For additional optional specialization 'Honours' or 'Minor', an additional fees of Rs. 25000/- will be charged in the third year.					
11.	ASSESSMENT	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. The internal and external will be separate heads of passing.			
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 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 10 CGPA for the programme.			
13.	AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE	Bachelor of Technology (Electronics and Tele-Communication Engineering) OR Bachelor of Technology (Electronics and Tele-Communication Engineering) with Honours in Bioelectronics Systems / Embedded Systems / Mechatronics and Automation / Optoelectronics and Communication / Signal Processing / Sustainable Energy Devices and Systems. OR			



Bachelor of (Electronics and Tele-Communication Engineering) with Minor in Artificial Intelligence and Machine Learning /Data Science / Internet of Things / Smart Cities and Urban Analytics / Automobile Engineering with Hybrid and Autonomous Technology will be awarded at the end of semester VIII 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	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	19	0	0	0	0	1*	19
2	21	0	0	0	0	1*	21
3	19	1	0	0	0	0	20
4	22	2	0	0	0	1*	24
5	20	4	0	0	0	0	24
6	18	4	0	0	3	0	25
7	8	12	0	0	3	0	23
8	14	0	0	0	0	0	14
Total	141	23	0	0	6	0	170
Optional Additional Courses (Honours)							
Total	0	0	20	0	0	0	20
Optional Additional Courses (Minor)							
Total	0	0	20/17	0/3	0	0	20
Grand Total							190

* Satisfactory completion of the non letter grade courses 'Integrated Disaster Management', 'Fitness for Life', 'Certificate in COVID-19 Care for the Community' is mandatory for the award of degree.

The revised programme structure supersedes the previously approved programme structure dated 12/03/2022 for the programme.

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.

Head - Academics

THIS IS SYSTEM GENERATED DOCUMENT AND REQUIRES NO SIGNATURE.



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TE7168	0701230101	Engineering Mathematics -I	BS		3	1	0	0	0	40	60	4	100
T7391	0701230102	Physics	BS		3	0	0	0	0	30	45	3	75
T7392	0701230103	Physics lab	BS		0	0	2	10	15	0	0	1	25
T7383	0701230104	Communication Skills	HS		2	0	0	0	0	20	30	2	50
T7384	0701230105	Communication skills lab	HS		0	0	2	10	15	0	0	1	25
TE7188	0701230106	Environmental Science	ES		2	0	0	0	0	20	30	2	50
TE7286	0701230107	Programming and Problem Solving	ES		2	0	0	0	0	20	30	2	50
TE7287	0701230108	Programming and Problem Solving Lab	ES		0	0	2	10	15	0	0	1	25
TE7310	0701230109	Computational Techniques I	ES		2	0	0	0	0	50	0	2	50
T6773	0701230110	Creative Thinking	HS		1	0	0	0	0	25	0	1	25
TH4272	0701230111	Certificate in COVID-19 Care for the Community *			0	0	0	0	0	0	0	Non Letter Grade	0
Total					15	1	6	30	45	205	195	19	475
Semester : 2													
Generic Core Courses													
TE7169	0701230201	Engineering Mathematics -II	BS		3	1	0	0	0	40	60	4	100



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7540	0701230202	Basic Electrical and Electronics Engineering	ES		3	0	0	0	0	30	45	3	75
T7593	0701230203	Basic Electrical and Electronics Engineering Lab	ES		0	0	2	10	15	0	0	1	25
T7381	0701230204	Chemistry	BS		3	0	0	0	0	30	45	3	75
T7382	0701230205	Chemistry Lab	BS		0	0	2	10	15	0	0	1	25
TE7311	0701230206	Computational Techniques II	ES		3	0	0	0	0	75	0	3	75
T7925	0701230207	Engineering Graphics Lab	ES		0	0	4	20	30	0	0	2	50
T6732	0701230208	Critical Thinking	HS		1	0	0	0	0	25	0	1	25
TE7396	0701230209	Software Tools	ES		0	0	2	25	0	0	0	1	25
TE7300	0701230210	Tinker Lab	ES		0	0	4	50	0	0	0	2	50
TH4095	0701230211	Fitness for Life *			0	0	0	0	0	0	0	Non Letter Grade	0
Total					13	1	14	115	60	200	150	21	525
Semester : 3													
Generic Core Courses													
TE7170	0701230301	Engineering Mathematics-III	BS		2	1	0	0	0	30	45	3	75
TE7083	0701230302	Signals and Systems	PC		3	0	0	0	0	30	45	3	75
TE7320	0701230303	Electronic Devices and Circuits	PC		3	0	0	0	0	30	45	3	75
TE7321	0701230304	Electronic Devices and Circuits Lab	PC		0	0	2	10	15	0	0	1	25





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7336	0701230305	Network Theory	PC		3	0	0	0	0	30	45	3	75
T2646	0701230306	Entrepreneurship Venture	HS		1	0	0	0	0	25	0	1	25
TE7322	0701230307	Electronic Measurements Lab	PC		0	0	2	10	15	0	0	1	25
F7011	0701230308	Digital Circuits and Logic Design	PC		4	0	0	0	0	100	0	4	100
Total					16	1	4	20	30	245	180	19	475
Generic Elective Courses Group													
T6760	0701230309	Introduction to Indian Philosophy	GE		1	0	0	0	0	25	0	1	25
T6872	0701230310	Foundation of Ethics	GE		1	0	0	0	0	25	0	1	25
Total Required Credits								0	0	25	0	1	25
Semester : 4													
Generic Core Courses													
T7547	0701230401	Control Systems	PC		3	1	0	0	0	40	60	4	100
T7548	0701230402	Control Systems Lab	PC		0	0	2	10	15	0	0	1	25
T7562	0701230403	Electromagnetic Field Theory	PC		3	1	0	0	0	40	60	4	100
TE7084	0701230404	Analog Circuit Design	PC		3	0	0	0	0	30	45	3	75
T7536	0701230405	Analog Circuit Design Lab	PC		0	0	2	10	15	0	0	1	25
TE7425	0701230406	Principles of Communication	PC		3	0	0	0	0	30	45	3	75
TE7029	0701230407	Principles of Communication Lab	PC		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7290	0701230408	Project Based Learning -I	PIS		0	0	4	50	0	0	0	2	50
F0003	0701230409	Flexi-Credit Course	PC		3	0	0	0	0	75	0	3	75
T4005	0701230410	Integrated Disaster Management *			0	0	0	0	0	0	0	Non Letter Grade	0
Total					15	2	10	80	45	215	210	22	550
Generic Elective Courses Group													
T6184	0701230411	Basic German I	GE		2	0	0	0	0	50	0	2	50
T6186	0701230412	Basic French I	GE		2	0	0	0	0	50	0	2	50
T6188	0701230413	Basic Spanish I	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Semester : 5													
Generic Core Courses													
T7558	0701230501	Digital Signal Processing	PC		3	1	0	0	0	40	60	4	100
T7559	0701230502	Digital Signal Processing Lab	PC		0	0	2	10	15	0	0	1	25
TE7316	0701230503	Digital Communication	PC		3	0	0	0	0	30	45	3	75
T7552	0701230504	Digital Communication Lab	PC		0	0	2	10	15	0	0	1	25
TE7174	0701230505	Probability, Random Variables and Stochastic Process	PC		3	0	0	0	0	30	45	3	75





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T8000	0701230506	Service Learning	HS		0	0	8	100	0	0	0	4	100
TE7291	0701230507	Project Based Learning-II	PIS		0	0	4	50	0	0	0	2	50
F0002	0701230508	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
Total					11	1	16	170	30	150	150	20	500
Generic Elective Courses Group - I													
TE7090	0701230509	Antenna and Wave Propagation	PE		3	0	0	0	0	30	45	3	75
TE7323	0701230510	Electronic System Design	PE		3	0	0	0	0	30	45	3	75
TE7085	0701230511	Power Electronics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - II													
TE7091	0701230512	Antenna and Wave Propagation Lab	PE		0	0	2	10	15	0	0	1	25
TE7324	0701230513	Electronic System Design Lab	PE		0	0	2	10	15	0	0	1	25
T7583	0701230514	Power Electronics Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Semester : 6													
Generic Core Courses													
T7908	0701230601	Computer Networks	PC		3	0	0	0	0	30	45	3	75
T7482	0701230602	Computer Networks Lab	PC		0	0	2	10	15	0	0	1	25
T6749	0701230603	Design Thinking	HS		2	0	0	0	0	50	0	2	50



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7802	0701230604	Project Based Learning-III	PIS		0	0	4	50	0	0	0	2	50
TE7426	0701230605	Electronic Design Workshop	PC		0	0	4	20	30	0	0	2	50
T7802	0701230606	Capstone Course	PC		2	0	0	0	0	50	0	2	50
T6774	0701230607	Principles of Economics	HS		2	0	0	0	0	50	0	2	50
F0004	0701230608	Flexi-Credit Course	PC		4	0	0	0	0	100	0	4	100
Total					13	0	10	80	45	280	45	18	450
Generic Elective Courses Group - I													
T7580	0701230609	Microwaves and Radar	PE		3	0	0	0	0	30	45	3	75
TE7089	0701230610	Modern Control Theory	PE		3	0	0	0	0	30	45	3	75
TE7427	0701230611	Embedded System Design	PE		3	0	0	0	0	30	45	3	75
TE7088	0701230612	Digital Image Processing	PE		3	0	0	0	0	30	45	3	75
TE7315	0701230613	Digital CMOS VLSI Design	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - II													
T7579	0701230614	Microwave and Radar Lab	PE		0	0	2	10	15	0	0	1	25
TE7039	0701230615	Modern Control Theory Lab	PE		0	0	2	10	15	0	0	1	25
T7567	0701230616	Embedded System Design Lab	PE		0	0	2	10	15	0	0	1	25
T7094	0701230617	Digital Image Processing Lab	PE		0	0	2	10	15	0	0	1	25
TE7132	0701230618	CAD for VLSI Design Lab	PE		0	0	2	10	15	0	0	1	25





Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total Required Credits					10	15	0	0	0	0	1	25	
Open Elective Courses Group													
T7574	0701230619	MATLAB	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7335	0701230620	Introduction to Robotics	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7339	0701230621	Renewable Energy Systems	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7428	0701230622	Introduction to Image Processing	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7223	0701230623	Smart Urban Planning	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7240	0701230624	Water Resource Planning and Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
T7499	0701230625	Java	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7265	0701230626	Introduction to Data Science	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7263	0701230627	Introduction to AI and Machine Learning	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7388	0701230628	Quality Management Techniques	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7319	0701230629	Electrical and Electronics Materials	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7351	0701230630	3D Printing and Prototyping	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7387	0701230631	Project Management	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7698	0701230632	Nanotechnology	OE	Applied Science	3	0	0	0	0	30	45	3	75
T7393	0701230633	Computer Based Statistical Packages	OE	Applied Science	3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 7													
Generic Core Courses													
T7804	0701230701	B.Tech Project	PIS		0	0	8	40	60	0	0	4	100
T7674	0701230702	Cyber Security	PC		2	0	0	0	0	50	0	2	50
F0002	0701230703	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
Total					4	0	8	40	60	100	0	8	200
Generic Elective Courses Group - I													
T7473	0701230704	Artificial Intelligence	PE		3	0	0	0	0	30	45	3	75
TE7045	0701230705	IoT and Applications	PE		3	0	0	0	0	30	45	3	75
TE7326	0701230706	Fiber Optics And Satellite Communication	PE		3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7340	0701230707	Scientific Computing	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - II													
TE7014	0701230708	Artificial Intelligence Lab	PE		0	0	2	10	15	0	0	1	25
TE7048	0701230709	IoT and Applications Lab	PE		0	0	2	10	15	0	0	1	25
TE7327	0701230710	Fiber Optics And Satellite Communication Lab	PE		0	0	2	10	15	0	0	1	25
TE7341	0701230711	Scientific Computing Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Generic Elective Courses Group - III													
TE7306	0701230712	Biomedical Electronics	PE		3	0	0	0	0	30	45	3	75
TE7317	0701230713	Digital Control System	PE		3	0	0	0	0	30	45	3	75
TE7342	0701230714	Speech and Audio Signal Processing	PE		3	0	0	0	0	30	45	3	75
TE7347	0701230715	Wireless Communication	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Courses Group - IV													
TE7307	0701230716	Biomedical Electronics Lab	PE		0	0	2	10	15	0	0	1	25
TE7318	0701230717	Digital Control System Lab	PE		0	0	2	10	15	0	0	1	25
TE7343	0701230718	Speech and Audio Signal Processing Lab	PE		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7348	0701230719	Wireless Communication Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								10	15	0	0	1	25
Generic Elective Courses Group - V													
TE7429	0701230720	Information Theory and Coding	PE		2	0	0	0	0	20	30	2	50
TE7430	0701230721	Computer Architecture	PE		2	0	0	0	0	20	30	2	50
TE7431	0701230722	Wireless Sensor Network	PE		2	0	0	0	0	20	30	2	50
Total Required Credits								0	0	20	30	2	50
Generic Elective Courses Group -VI													
TE7438	0701230723	History of Science and Technology	GE		2	0	0	0	0	50	0	2	50
T2585	0701230724	Organizational Behaviour	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Open Elective Courses Group													
TE7171	0701230725	Introduction to Mathematical Modelling	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7195	0701230726	GIS Applications	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7203	0701230727	Intelligent Transportation Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7264	0701230728	Introduction to BIGDATA	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
T7474	0701230729	Basics of Database	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7616	0701230730	Fundamentals of Automotive Technology	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
T7529	0701230731	Machine Learning	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7756	0701230732	Open Source Technologies	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
T7584	0701230733	Printed Circuit Board (PCB) Design	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
T7650	0701230734	Six sigma	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7700	0701230735	Smart Materials	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7334	0701230736	Introduction to Mechatronics	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7338	0701230737	Principles of Modern Communication Systems	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7376	0701230738	Introduction to Operations Research	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7377	0701230739	Introduction to Optimisation	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 8													
Generic Core Courses													



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7912	0701230801	Internship	PIS		0	0	24	120	180	0	0	12	300
T7802	0701230802	Seminar	PIS		0	0	4	50	0	0	0	2	50
Total					0	0	28	170	180	0	0	14	350

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



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25
Annexure A

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester 1	3	16	19	475
Semester 2	7	14	21	525
Semester 3	6	14	20	500
Semester 4	7	17	24	600
Semester 5	8	16	24	600
Semester 6	12	13	25	625
Semester 7	6	17	23	575
Semester 8	2	12	14	350
Total	51	119	170	4250



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Bioelectronics Systems Specialization Core Courses													
TE7333	0701230515	Introduction to Computer Vision	PC		4	0	0	0	0	40	60	4	100
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Embedded Systems Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7298	0701230518	System Programming	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Mechatronics and Automation Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7330	0701230519	Industrial Robotics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Optoelectronics and Communication Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7345	0701230520	Theory of Light and Lasers	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													
Signal Processing Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
T7086	0701230521	Advanced Digital Signal Processing	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 5													



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Sustainable Energy Devices and Systems Specialization Core Courses													
T7801	0701230516	Specialization Project	PIS		0	0	2	10	15	0	0	1	25
T7802	0701230517	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
TE7344	0701230522	Sustainable Energy And Solar Photovoltaic Systems	PC		4	0	0	0	0	40	60	4	100
Total					4	0	6	30	45	40	60	7	175
Semester : 6													
Bioelectronics Systems Specialization Core Courses													
TE7308	0701230634	Biomedical Imaging Systems	PC		4	0	0	0	0	40	60	4	100
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Embedded Systems Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7325	0701230636	Embedded Linux	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 6													
Mechatronics and Automation Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7100	0701230637	Mechatronics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Optoelectronics and Communication Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7337	0701230638	Optical Devices and Fiber Optics	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 6													
Signal Processing Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7112	0701230639	VLSI Digital Signal Processing System	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 6													
Sustainable Energy Devices and Systems Specialization Core Courses													
T7802	0701230635	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7346	0701230640	Wind Energy Systems	PC		4	0	0	0	0	40	60	4	100
Total					4	0	4	20	30	40	60	6	150
Semester : 7													
Bioelectronics Systems Specialization Core Courses													
TE7050	0701230740	Biomedical Instrumentation	PC		4	0	0	0	0	40	60	4	100
TE7309	0701230741	Biomedical Instrumentation Lab	PC		0	0	2	10	15	0	0	1	25
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Embedded Systems Specialization Core Courses													
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7304	0701230743	Advanced Microcontrollers and RTOS	PC		4	0	0	0	0	40	60	4	100
TE7305	0701230744	Advanced Microcontrollers and RTOS Lab	PC		0	0	2	10	15	0	0	1	25



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Mechatronics and Automation Specialization Core Courses													
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7125	0701230745	Mobile Robotics	PC		4	0	0	0	0	40	60	4	100
TE7056	0701230746	Mobile Robotics Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Optoelectronics and Communication Specialization Core Courses													
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7432	0701230747	Optical Communication Systems	PC		4	0	0	0	0	40	60	4	100
TE7433	0701230748	Optical Communication Systems Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Signal Processing Specialization Core Courses													



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7302	0701230749	Adaptive Signal Processing	PC		4	0	0	0	0	40	60	4	100
TE7303	0701230750	Adaptive Signal Processing Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175
Semester : 7													
Sustainable Energy Devices and Systems Specialization Core Courses													
T7802	0701230742	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
TE7313	0701230751	Devices and Grid Systems for Sustainable Energy	PC		4	0	0	0	0	40	60	4	100
TE7314	0701230752	Devices and Grid Systems for Sustainable Energy Lab	PC		0	0	2	10	15	0	0	1	25
Total					4	0	6	30	45	40	60	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25
Annexure B
Optional 'Honours' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Bioelectronics Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Embedded Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Mechatronics and Automation				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Optoelectronics and Communication				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Signal Processing				
Semester 5	0	7	7	175
Semester 6	0	6	6	150



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25
Annexure B
Optional 'Honours' Specialization

Semester 7	0	7	7	175
Total	0	20	20	500
Sustainable Energy Devices and Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Artificial Intelligence and Machine Learning Specialization Core Courses													
TE7273	0701230523	Machine Learning: Classification	PC		3	0	0	0	0	30	45	3	75
TE7274	0701230524	Machine Learning: Regression	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 5													
Data Science Specialization Core Courses													
TE7281	0701230525	Open Source Tools for Data Science	PC		4	0	0	0	0	40	60	4	100
TE7292	0701230526	R Programming	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	70	105	7	175
Semester : 5													
Internet of Things Specialization Core Courses													
TE7268	0701230527	Introduction to IOT	PC		4	0	0	0	0	40	60	4	100
TE7293	0701230528	Raspberry Pi and Python	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	70	105	7	175



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 5													
Smart Cities and Urban Analytics Specialization Core Courses													
TE7220	0701230529	Smart Cities : Context Policy and Governance	PC		3	0	0	0	0	30	45	3	75
TE7206	0701230530	IOT for Smart Cities	PC		3	0	0	0	0	30	45	3	75
TE7207	0701230531	IOT for Smart Cities Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Automobile Engineering with Hybrid and Autonomous Technology Specialization Core Courses													
TE7355	0701230532	Basics of Automotive Engineering	PE		3	0	0	0	0	30	45	3	75
TE7665	0701230533	Automotive Electronics and Instrumentation	PE		2	0	0	0	0	50	0	2	50
TE7666	0701230534	Automotive Vehicle Dynamics and NVH Lab	PE		0	0	2	10	15	0	0	1	25
Total					5	0	2	10	15	80	45	6	150
Semester : 6													
Artificial Intelligence and Machine Learning Specialization Core Courses													
TE7266	0701230641	Introduction to Deep Learning	PC		4	0	0	0	0	40	60	4	100
TE7271	0701230642	Machine Learning Clustering and Retrieval	PC		3	0	0	0	0	30	45	3	75



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Total					7	0	0	0	0	70	105	7	175
Semester : 6													
Data Science													
Specialization Core Courses													
TE7247	0701230643	Business Analytics	PC		3	0	0	0	0	30	45	3	75
TE7284	0701230644	Power BI	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 6													
Internet of Things													
Specialization Core Courses													
TE7269	0701230645	IOT Security and Privacy	PC		3	0	0	0	0	30	45	3	75
TE7295	0701230646	Software Defined Networking	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 6													
Smart Cities and Urban Analytics													
Specialization Core Courses													
T7802	0701230647	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701230648	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7177	0701230649	Application of Sensor Technology to Smart Cities	PC		3	0	0	0	0	30	45	3	75
Total					3	0	8	100	0	30	45	7	175
Semester : 6													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialization Core Courses													
TE7669	0701230650	Hybrid Technology	PC		2	0	0	0	0	20	30	2	50
F0002	0701230651	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
TE7435	0701230652	Automotive Engine and Transmission System	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	100	75	7	175
Semester : 7													
Artificial Intelligence and Machine Learning													
Specialization Core Courses													
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Data Science													
Specialization Core Courses													



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Internet of Things													
Specialization Core Courses													
T7805	0701230753	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230754	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Smart Cities and Urban Analytics													
Specialization Core Courses													
T7803	0701230755	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
Smart Cities and Urban Analytics Specialization Core Courses													
TE7205	0701230756	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7234	0701230757	Urban Hydrology and Hydraulics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits					0	0	30	45	30	45	3	75	



Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Semester : 7													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialization Core Courses													
T7805	0701230758	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701230759	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Electronics & Tele-Communication Engineering)
Programme Structure 2021-25
Annexure C
Optional 'Minor' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Artificial Intelligence and Machine Learning				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	0	20	20	500
Data Science				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Internet of Things				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	0	20	20	500
Smart Cities and Urban Analytics				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
Automobile Engineering with Hybrid and Autonomous Technology				
Semester 5	2	4	6	150
Semester 6	2	5	7	175



Celebrating 50 Years of Excellence

Symbiosis Institute of Technology, Pune
 Bachelor of Technology (Electronics & Tele-Communication Engineering)
 Programme Structure 2021-25
 Annexure C
 Optional 'Minor' Specialization

Semester 7	0	7	7	175
Total	4	16	20	500


