

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

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	60			
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		20
5. ELIGIBILITY	<p>Passed 10+2 examination with Physics, Chemistry and Mathematics as compulsory subjects. Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together.</p> <p>OR</p> <p>Passed D.Voc. Stream in the same or allied sector. (The University will offer suitable bridge courses such as Mathematics, Physics, Engineering drawing, etc., for the students coming from diverse backgrounds to prepare Level playing field and desired learning outcomes of the programme).</p>			

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

		<p>B.Tech. : Lateral Entry Passed Minimum Three-years/ Two-year (Lateral Entry) Diploma examination with at least 45% marks (40% marks in case of candidates belonging to reserved category) in ANY branch of Engineering and Technology. OR Passed B.Sc. Degree from a recognized University as defined by UGC, with atleast 45% marks (40% marks or equivalent grade for Scheduled Caste / Scheduled Tribes) and passed 10+2 examination with Mathematics as a subject. OR Passed B. Voc. /3 year D.Voc. Stream in the same allied sector. (The Constituent will offer suitable bridge courses such as Mathematics, Physics, Engineering drawing, etc., for the students coming from diverse backgrounds to achieve desired learning outcomes of the programme).</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 & SPECIALISATION	<p>Annexure A: Bachelor of Technology (Civil 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. Annexure B: Optional (Honours) Specialization Area</p> <ol style="list-style-type: none"> 1. Environmental Hydraulics 2. Geo-Environmental Engineering 3. GIS and Surveying Technology 4. Infrastructure Engineering and Management 5. Smart Cities and Urban Analytics 6. Structural Engineering <p>Annexure C : Optional (Minor) Specialization Area</p>

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

		1. Artificial Intelligence and Machine Learning (CSE) 2. Data Science (CSE) 3. Internet of Things (CSE) 4. Embedded Systems (E&TC) 5. Automobile Engineering with Hybrid and Autonomous Technology (ME) 6. Aerial Robotics and Drone Technology (RA)			
10.	FEE		Academic Fee p.a	Institute Deposit	Total
	Indian Students (Amount in INR)		300000	20000	320000
	International Students	NRI/ PIO/ OCI Category (Amount in US\$)	5875	275	6150
		Foreign National Category (Amount in US\$)	1300	275	1575
Note: For additional optional Specialisation 'Honours' or 'Minor', an additional fees of Rs. 25000/- will be charged in the third year.					
11.	ASSESSMENT	The courses will have 40% Continuous Assessment and 60% Term End [University] examination however, some courses (not more than 30% of the total programme credits) may have 100% Continuous Assessment.			
12.	STANDARD OF PASSING	The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both 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	Bachelor of Technology (Civil Engineering)			

OR
Bachelor of Technology (Civil Engineering) with Honours in Environmental Hydraulics / Geo-Environmental Engineering / GIS and Surveying Technology / Infrastructure Engineering and Management/ Smart Cities and Urban Analytics/ Structural Engineering
OR
Bachelor of Technology (Civil Engineering) with Minor in Artificial Intelligence and Machine Learning / Data Science / Internet of Things / Embedded Systems / Automobile Engineering with Hybrid and Autonomous Technology/Aerial Robotics and Drone Technology as applicable will be awarded at the end of semester 8 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	Specialisation Core	Specialisation Elective	Open Elective	Mandatory Non-Credit Course/s	Non-Letter Grade Audit Course/s	Total
Common								
1	20	0	0	0	0	1		20
2	23	0	0	0	0	0		23
3	20	2	0	0	0	1		22
4	22	1	0	0	0	1	As per the student's choice	23
5	19	2	0	0	3	1		24
6	14	7	0	0	3	0		24
7	8	12	0	0	0	0		20
8	14	0	0	0	0	0		14
Total	140	24	0	0	6	0		170
Optional Additional Courses (Honours)								
Total	0	0	14/17	6/3	0	0		20
Optional Additional Courses (Minor)								
Total	0	0	20	0	0	0		20
Grand Total								190

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

The revised programme structure supersedes the previously approved programme structure dated 09/10/2024 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.**

Director - Academics

THIS IS SYSTEM GENERATED DOCUMENT AND REQUIRES NO SIGNATURE.

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ 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	0701210101	Engineering Mathematics -I	BS		3	1	0	0	0	40	60	4	100
TE7683	0701210102	Physics for Civil Engineers	BS		3	0	0	0	0	30	45	3	75
TE7687	0701210103	Physics Lab	BS		0	0	2	10	15	0	0	1	25
TE7732	0701210104	Programming and Logic Building Lab	ES		0	0	4	20	30	0	0	2	50
TE7702	0701210105	Applied Mechanics	ES		3	0	0	0	0	30	45	3	75
TE7703	0701210106	Applied Mechanics Lab	ES		0	0	2	10	15	0	0	1	25
T7925	0701210107	Engineering Graphics Lab	ES		0	0	4	20	30	0	0	2	50
T7383	0701210108	Communication Skills	HS		2	0	0	0	0	20	30	2	50
T7384	0701210109	Communication Skills Lab	HS		0	0	2	10	15	0	0	1	25
T6873	0701210110	Creative Thinking	HS		1	0	0	0	0	25	0	1	25
TE7188	0701210111	Environmental Science			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					12	1	14	70	105	145	180	20	500
Semester : 2													
Generic Core Courses													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7169	0701210201	Engineering Mathematics -II	BS		3	1	0	0	0	40	60	4	100
TE7694	0701210202	Chemistry	BS		3	0	0	0	0	30	45	3	75
TE7695	0701210203	Chemistry Lab	BS		0	0	2	10	15	0	0	1	25
TE7720	0701210204	Digital Land Surveying and Mapping	ES		2	0	0	0	0	20	30	2	50
TE7721	0701210205	Digital Land Surveying and Mapping Lab	ES		0	0	2	10	15	0	0	1	25
TE7729	0701210206	Introduction to Python Programming Lab	ES		0	0	4	20	30	0	0	2	50
T7957	0701210207	Building Construction Technology	PC		3	0	0	0	0	30	45	3	75
TE7706	0701210208	Basics of Sensors and Microcontrollers	ES		2	0	0	0	0	20	30	2	50
TE7707	0701210209	Basics of Sensors and Microcontrollers Lab	ES		0	0	2	10	15	0	0	1	25
TE7739	0701210210	Software Tools for Civil Engineers	ES		0	0	2	10	15	0	0	1	25
T6732	0701210211	Critical Thinking	HS		1	0	0	0	0	25	0	1	25
TE7300	0701210212	Tinker Lab	ES		0	0	4	50	0	0	0	2	50
Total					14	1	16	110	90	165	210	23	575
Semester : 3													
Generic Core Courses													
TE7740	0701210301	Strength of Materials	PC		3	0	0	0	0	30	45	3	75
TEE7109	0701210302	Materials Testing Lab	PC		0	0	4	20	30	0	0	2	50
TE7170	0701210303	Engineering Mathematics-III	BS		2	1	0	0	0	30	45	3	75
TEE7098	0701210304	Cyber Security	ES		2	0	0	0	0	50	0	2	50

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7710	0701210305	Computer Aided Building Design and Drawing Lab	ES		0	0	4	50	0	0	0	2	50
TE7400	0701210306	Introduction to Fluid Mechanics	PC		3	0	0	0	0	30	45	3	75
TE7728	0701210307	Introduction to Fluid Mechanics Lab	PC		0	0	2	10	15	0	0	1	25
T8000	0701210308	Service Learning	HS		0	0	8	100	0	0	0	4	100
TH4788	0701210309	Health and Wellness Module I			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					10	1	18	180	45	140	135	20	500
Generic Elective Courses Group (Choose any one course)													
T6184	0701210310	Basic German I	GE		2	0	0	0	0	50	0	2	50
T6186	0701210311	Basic French I	GE		2	0	0	0	0	50	0	2	50
T6188	0701210312	Basic Spanish I	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Semester : 4													
Generic Core Courses													
TEE7045	0701210401	Theory of Structures-I	PC		3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7723	0701210402	Geotechnical Engineering	PC		3	0	0	0	0	30	45	3	75
TE7724	0701210403	Geotechnical Engineering Lab	PC		0	0	2	10	15	0	0	1	25
TE7404	0701210404	Open Channel Flow	PC		3	0	0	0	0	30	45	3	75
TEE7043	0701210405	Open Channel Flow Lab	PC		0	0	2	10	15	0	0	1	25
TE7691	0701210406	Statistics, Probability and Numerical Methods	BS		3	0	0	0	0	30	45	3	75
TE7692	0701210407	Statistics, Probability and Numerical Methods Lab	BS		0	0	2	10	15	0	0	1	25
TE7290	0701210408	Project Based Learning -I	PIS		0	0	4	50	0	0	0	2	50
T7966	0701210409	Advanced Surveying Lab	PC		0	0	4	50	0	0	0	2	50
T6774	0701210410	Principles of Economics	HS		2	0	0	0	0	50	0	2	50
T2646	0701210411	Entrepreneurship Venture	HS		1	0	0	0	0	25	0	1	25
TH4789	0701210412	Health and Wellness Module II			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					15	0	14	130	45	195	180	22	550
Generic Elective Course Group (Choose any one course)													
T6872	0701210413	Foundation of Ethics	GE		1	0	0	0	0	25	0	1	25

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T6760	0701210414	Introduction to Indian Philosophy	GE		1	0	0	0	0	25	0	1	25
Total Required Credits								0	0	25	0	1	25
Semester : 5													
Generic Core Courses													
TE7743	0701210501	Water Treatment and Supply System	PC		3	0	0	0	0	30	45	3	75
F0001	0701210502	Flexi-Credit Course	PC		0	0	2	25	0	0	0	1	25
TEE7041	0701210503	Theory of Structures-II	PC		3	0	0	0	0	30	45	3	75
TE7714	0701210504	Design of RCC Structures	PC		3	0	0	0	0	30	45	3	75
TE7715	0701210505	Design of RCC Structures Lab	PC		0	0	2	10	15	0	0	1	25
TE7713	0701210506	Construction Project Management Lab	PC		0	0	2	10	15	0	0	1	25
T6749	0701210507	Design Thinking	HS		2	0	0	0	0	50	0	2	50
TE7291	0701210508	Project Based Learning-II	PIS		0	0	4	50	0	0	0	2	50
TE7199	0701210509	Hydrology and Water Resource Engineering	PC		3	0	0	0	0	30	45	3	75
SMC001	0701210557	Vasudhaiva Kutumbakam			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
Total					14	0	10	95	30	170	180	19	475

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Generic Elective Course Group (Choose any one course)													
TE7704	0701210510	Artificial Intelligence and Machine Learning	PE		2	0	0	0	0	50	0	2	50
TE7727	0701210511	Internet of Things	PE		2	0	0	0	0	50	0	2	50
TE7709	0701210512	Cloud Computing and Blockchain Technology	PE		2	0	0	0	0	50	0	2	50
TE7708	0701210513	Big Data Analytics	PE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Open Electives Course Group (Choose any one course)													
TE7698	0701210514	Nanotechnology	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7676	0701210515	Executive Corporate Communication For Impact	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7195	0701210516	GIS Applications	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7203	0701210517	Intelligent Transportation Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7297	0701210518	Software Testing Tools	OE	Computer Science and Engineering and Information Technology	3	0	0	0	0	30	45	3	75
TE7756	0701210519	Open Source Technologies	OE	Computer Science and Engineering and Information Technology	3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
T7584	0701210520	Printed Circuit Board (PCB) Design	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7334	0701210521	Introduction to Mechatronics	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TEE7044	0701210522	Data Modelling and Analytics for Battery Energy Storage Systems	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7351	0701210523	3D Printing and Prototyping	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 6													
Generic Core Courses													
TE7716	0701210601	Design of Steel Structures	PC		3	0	0	0	0	30	45	3	75
TE7215	0701210602	Prestressed Concrete Structure Lab	PC		0	0	2	10	15	0	0	1	25
F0003	0701210603	Flexi-Credit Course	PC		3	0	0	0	0	75	0	3	75
TE7741	0701210604	Waste Water Treatment and Recycling	PC		3	0	0	0	0	30	45	3	75
T7802	0701210605	Capstone Course	PC		2	0	0	0	0	50	0	2	50
TE7726	0701210606	Highway Engineering Lab	PC		0	0	2	10	15	0	0	1	25
TE7742	0701210607	Water and Waste Water Analysis Lab	PC		0	0	2	10	15	0	0	1	25
Total					11	0	6	30	45	185	90	14	350

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Generic Elective Course Group - I (Choose any one course)													
TE7409	0701210608	Bridge Engineering	PE		4	0	0	0	0	40	60	4	100
T7987	0701210609	Foundation Engineering	PE		4	0	0	0	0	40	60	4	100
T7975	0701210610	Green Building Technology	PE		4	0	0	0	0	40	60	4	100
TE7412	0701210611	Introduction to Remote Sensing and GIS	PE		4	0	0	0	0	40	60	4	100
TE7734	0701210612	Railway and Tunnel Engineering	PE		4	0	0	0	0	40	60	4	100
TE7221	0701210613	Smart Cities and Future Urbanism	PE		4	0	0	0	0	40	60	4	100
Total Required Credits								0	0	40	60	4	100
Generic Elective Course Group - II (Choose any one course)													
TE7175	0701210614	Advanced Structural Analysis	PE		3	0	0	0	0	30	45	3	75
TE7705	0701210615	Automation in Construction	PE		3	0	0	0	0	30	45	3	75
T7984	0701210616	Computer Applications in Construction Management	PE		3	0	0	0	0	30	45	3	75
TE7182	0701210617	Design of Hydraulic Structures	PE		3	0	0	0	0	30	45	3	75
T7980	0701210618	Glass Facade Engineering	PE		3	0	0	0	0	30	45	3	75
TE7415	0701210619	Integrated Water Resource Management	PE		3	0	0	0	0	30	45	3	75
TE7414	0701210620	Pavement Design	PE		3	0	0	0	0	30	45	3	75
TE7416	0701210621	Smart Cities Planning and Development	PE		3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7235	0701210622	Urban Transport Engineering	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Open Electives Course Group (Choose any one course)													
TE7677	0701210623	Financial Mathematics	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7700	0701210624	Smart Materials	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7223	0701210625	Smart Urban Planning	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7240	0701210626	Water Resource Planning and Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7948	0701210627	Introduction to Cloud Computing	OE	Computer Science and Engineering and Information Technology	3	0	0	0	0	30	45	3	75
TE7952	0701210628	User Interface and Experience Design	OE	Computer Science and Engineering and Information Technology	3	3	3	0	0	30	45	3	75
TEE7018	0701210629	Engineering Simulation and Modeling Tools	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7428	0701210630	Introduction to Image Processing	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7810	0701210631	Industrial Revolution and Introduction of Industry 5.0	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
T7650	0701210632	Six sigma	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 7													
Generic Core Courses													
T7804	0701210701	B.Tech Project	PIS		0	0	8	40	60	0	0	4	100
TE7701	0701210702	Advanced BIM Lab	PC		0	0	4	50	0	0	0	2	50
TE7733	0701210703	Project Estimation, Costing and Valuation Lab	PC		0	0	4	20	30	0	0	2	50
Total					0	0	16	110	90	0	0	8	200
Generic Elective Course Group - I (Choose any one course)													
T2585	0701210704	Organizational Behaviour	GE		2	0	0	0	0	50	0	2	50
TE7438	0701210705	History of Science and Technology	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								0	0	50	0	2	50
Generic Elective Course Group - II (Choose any one course)													
TE7725	0701210706	Harbour and Airport Engineering	PE		3	0	0	0	0	30	45	3	75
TE7238	0701210707	Water and Air Quality Modelling	PE		3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7417	0701210708	Advanced Concrete Technology	PE		3	0	0	0	0	30	45	3	75
TE7418	0701210709	Geoinformatics Application for Emergency Response Management	PE		3	0	0	0	0	30	45	3	75
T7955	0701210710	Professional Practices in Construction	PE		3	0	0	0	0	30	45	3	75
TE7216	0701210711	Project Management in Smart Cities	PE		3	0	0	0	0	30	45	3	75
TE7219	0701210712	Rock Mechanics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Generic Elective Course Group - III (Choose any one course)													
TE7722	0701210713	Emerging Technologies in Construction	PE		3	0	0	0	0	75	0	3	75
TE7231	0701210714	Sustainable Construction Methods	PE		3	0	0	0	0	75	0	3	75
TE7419	0701210715	Introduction to Finite Element Methods	PE		3	0	0	0	0	75	0	3	75
TE7420	0701210716	Environmental Geotechniques	PE		3	0	0	0	0	75	0	3	75
TE7421	0701210717	Environmental Impact Assessment	PE		3	0	0	0	0	75	0	3	75
TE7422	0701210718	Traffic Engineering	PE		3	0	0	0	0	75	0	3	75
TE7423	0701210719	Optimization in Civil Engineering	PE		3	0	0	0	0	75	0	3	75
Total Required Credits								0	0	75	0	3	75
Generic Elective Course Group-IV (Choose any one Group 'A' to 'C')													
Generic Elective Course Group - A													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
TE7718	0701210720	Digital Image Processing	PE		3	0	0	0	0	30	45	3	75
TE7719	0701210721	Digital Image Processing Lab	PE		0	0	2	25	0	0	0	1	25
Total Required Credits								25	0	30	45	4	100
Generic Elective Course Group - B													
TE7737	0701210722	Smart Transport Management	PE		3	0	0	0	0	30	45	3	75
TE7738	0701210723	Smart Transport Management Lab	PE		0	0	2	25	0	0	0	1	25
Total Required Credits								25	0	30	45	4	100
Generic Elective Course Group - C													
TE7735	0701210724	Smart Solid Waste Management Systems	PE		3	0	0	0	0	30	45	3	75
TE7736	0701210725	Smart Solid Waste Management Systems Lab	PE		0	0	2	25	0	0	0	1	25
Total Required Credits								25	0	30	45	4	100
Semester : 8													
Generic Core Courses													
T7912	0701210801	Internship	PIS		0	0	24	120	180	0	0	12	300
T7802	0701210802	Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	28	140	210	0	0	14	350

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure A

Abbreviations (Nature)

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

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28
Annexure A

Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Semester 1	1	19	20	500
Semester 2	3	20	23	575
Semester 3	10	12	22	550
Semester 4	8	15	23	575
Semester 5	7	17	24	600
Semester 6	5	19	24	600
Semester 7	8	12	20	500
Semester 8	0	14	14	350
Total	42	128	170	4250

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Semester : 5													
Environmental Hydraulics Specialisation Core Courses													
TE7185	0701210524	Environmental Fluid Mechanics	PC		3	0	0	0	0	30	45	3	75
TE7241	0701210525	Water Resources Field Methods	PC		3	0	0	0	0	30	45	3	75
TE7242	0701210526	Water Resources Field Methods Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Geo-Environmental Engineering Specialisation Core Courses													
TE7190	0701210527	Environmental Systems	PC		3	0	0	0	0	30	45	3	75
TE7229	0701210528	Structural Geology	PC		3	0	0	0	0	30	45	3	75
TE7230	0701210529	Structural Geology Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
GIS and Surveying Technology Specialisation Core Courses													
TE7184	0701210530	Digital Image Processing in GIS	PC		3	0	0	0	0	30	45	3	75
TE7196	0701210531	Global Navigation Satellite Systems	PC		3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7197	0701210532	Global Navigation Satellite Systems Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Infrastructure Engineering and Management Specialisation Core Courses													
TE7236	0701210533	Urban Transportation Planning	PC		3	0	0	0	0	30	45	3	75
TE7201	0701210534	Infrastructure Planning and Design	PC		3	0	0	0	0	30	45	3	75
TE7202	0701210535	Infrastructure Planning and Design Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Smart Cities and Urban Analytics Specialisation Core Courses													
TE7220	0701210536	Smart Cities : Context Policy and Governance	PC		3	0	0	0	0	30	45	3	75
TE7206	0701210537	IOT for Smart Cities	PC		3	0	0	0	0	30	45	3	75
TE7207	0701210538	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													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Structural Engineering Specialisation Core Courses													
TEE7076	0701210539	Advanced Solid Mechanics	PC		3	0	0	0	0	30	45	3	75
TE7208	0701210540	Modelling and Analysis of Uncertainty	PC		3	0	0	0	0	30	45	3	75
TE7209	0701210541	Modelling and Analysis of Uncertainty Lab	PC		0	0	2	10	15	0	0	1	25
Total					6	0	2	10	15	60	90	7	175
Semester : 6													
Environmental Hydraulics Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
Total					0	0	8	100	0	0	0	4	100
(Choose any one course)													
Specialisation Elective : Environmental Hydraulics													
TE7211	0701210635	Pipeline Engineering	PE		3	0	0	0	0	30	45	3	75
TE7218	0701210636	River Engineering	PE		3	0	0	0	0	30	45	3	75
Total Required Credits					0	0	30	45	3	75			
Semester : 6													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Geo-Environmental Engineering Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
Total					0	0	8	100	0	0	0	4	100
(Choose any one course)													
Specialisation Elective : Geo-Environmental Engineering													
TE7187	0701210637	Environmental Laws and Policy	PE		3	0	0	0	0	30	45	3	75
TE7194	0701210638	Geotechnical Design	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 6													
GIS and Surveying Technology Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
TE7227	0701210639	Spatial Modelling and Analysis	PC		3	0	0	0	0	30	45	3	75
Total					3	0	8	100	0	30	45	7	175
Semester : 6													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Infrastructure Engineering and Management Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
Total					0	0	8	100	0	0	0	4	100
(Choose any one course)													
Specialisation Elective : Infrastructure Engineering and Management													
TE7217	0701210640	Public Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7210	0701210641	Pavement Materials	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 6													
Smart Cities and Urban Analytics Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
TE7177	0701210642	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													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Structural Engineering Specialisation Core Courses													
T7802	0701210633	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701210634	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
TE7228	0701210643	Structural Analysis by Matrix Methods	PC		3	0	0	0	0	30	45	3	75
Total					3	0	8	100	0	30	45	7	175
Semester : 7													
Environmental Hydraulics Specialisation Core Courses													
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
(Choose any one course) Specialisation Elective : Environmental Hydraulics													
TE7198	0701210727	Hydraulic Modelling	PE		3	0	0	0	0	30	45	3	75
TE7180	0701210728	Basics of Computational Methods	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 7													
Geo-Environmental Engineering Specialisation Core Courses													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total	
					Practical		Theory		CA	ESE	CA			ESE
					L	T	La b	CA						
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75	
Total					0	0	6	30	45	0	0	3	75	
(Choose any one course)														
Specialisation Elective : Geo-Environmental Engineering														
TE7226	0701210729	Solid and Hazardous Waste Management	PE		3	0	0	0	0	30	45	3	75	
TE7186	0701210730	Environmental Geotechnology	PE		3	0	0	0	0	30	45	3	75	
Total Required Credits								0	0	30	45	3	75	
Semester : 7														
GIS and Surveying Technology														
Specialisation Core Courses														
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75	
Total					0	0	6	30	45	0	0	3	75	
(Choose any one course)														
Specialisation Elective : GIS and Surveying Technology														
TE7193	0701210731	Geoinformatics Applications in Natural Resource Management	PE		3	0	0	0	0	30	45	3	75	
TE7205	0701210732	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75	
Total Required Credits								0	0	30	45	3	75	
Semester : 7														

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Infrastructure Engineering and Management Specialisation Core Courses													
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
(Choose any one course)													
Specialisation Elective : Infrastructure Engineering and Management													
TE7205	0701210732	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7233	0701210733	Transportation Economics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75
Semester : 7													
Smart Cities and Urban Analytics Specialisation Core Courses													
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
(Choose any one course)													
Specialisation Elective : Smart Cities and Urban Analytics													
TE7205	0701210732	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7234	0701210734	Urban Hydrology and Hydraulics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Semester : 7													
Structural Engineering Specialisation Core Courses													
T7803	0701210726	Specialization Project	PIS		0	0	6	30	45	0	0	3	75
Total					0	0	6	30	45	0	0	3	75
(Choose any one course)													
Specialisation Elective : Structural Engineering													
TE7200	0701210735	Industrial Structures	PE		3	0	0	0	0	30	45	3	75
TE7232	0701210736	System Engineering and Economics	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28
Annexure B
Optional 'Honours' Specialization

Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Environmental Hydraulics				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
Geo-Environmental Engineering				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
GIS and Surveying Technology				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
Infrastructure Engineering and Management				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500
Smart Cities and Urban Analytics				
Semester 5	0	7	7	175
Semester 6	4	3	7	175

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure B
Optional 'Honours' Specialization

Semester 7	0	6	6	150
Total	4	16	20	500
Structural Engineering				
Semester 5	0	7	7	175
Semester 6	4	3	7	175
Semester 7	0	6	6	150
Total	4	16	20	500

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ 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 Specialisation Core Courses													
TE7273	0701210542	Machine Learning: Classification	PC		3	0	0	0	0	30	45	3	75
TE7274	0701210543	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 Specialisation Core Courses													
TE7281	0701210544	Open Source Tools for Data Science	PC		4	0	0	0	0	40	60	4	100
TE7292	0701210545	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 Specialisation Core Courses													
TE7268	0701210546	Introduction to IOT	PC		4	0	0	0	0	40	60	4	100
TE7293	0701210547	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 (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Semester : 5													
Embedded Systems													
Specialisation Core Courses													
TEE7047	0701210548	Microcontrollers and Embedded C Programming	PC		3	0	0	0	0	30	45	3	75
TEE7046	0701210549	Microcontrollers and Embedded C Programming Lab	PC		0	0	2	10	15	0	0	1	25
TE7991	0701210550	Automotive Embedded System	PC		3	0	0	0	0	30	45	3	75
Total					6	0	2	10	15	60	90	7	175
Semester : 5													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialisation Core Courses													
TE7355	0701210551	Basics of Automotive Engineering	PC		3	0	0	0	0	30	45	3	75
TE7666	0701210552	Automotive Vehicle Dynamics and NVH Lab	PC		0	0	2	10	15	0	0	1	25
TE7665	0701210553	Automotive Electronics and Instrumentation	PC		2	0	0	0	0	50	0	2	50
Total					5	0	2	10	15	80	45	6	150
Semester : 5													
Aerial Robotics and Drone Technology													
Specialisation Core Courses													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
TE7850	0701210554	Introduction to Aerial Robotics and Drones	PC		3	0	0	0	0	30	45	3	75
TE7864	0701210555	Motion Planning and Control	PC		2	0	0	0	0	20	30	2	50
TE7865	0701210556	Motion Planning and Control lab	PC		0	0	2	10	15	0	0	1	25
Total					5	0	2	10	15	50	75	6	150
Semester : 6													
Artificial Intelligence and Machine Learning Specialisation Core Courses													
TE7266	0701210644	Introduction to Deep Learning	PC		4	0	0	0	0	40	60	4	100
TE7271	0701210645	Machine Learning Clustering and Retrieval	PC		3	0	0	0	0	30	45	3	75
Total					7	0	0	0	0	70	105	7	175
Semester : 6													
Data Science Specialisation Core Courses													
TE7247	0701210646	Business Analytics	PC		3	0	0	0	0	30	45	3	75
TE7284	0701210647	Power BI	PC		3	0	0	0	0	30	45	3	75
Total					6	0	0	0	0	60	90	6	150
Semester : 6													

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
					L	T	La b	Practical		Theory			
								CA	ESE	CA	ESE		
Internet of Things Specialisation Core Courses													
TE7269	0701210648	IOT Security and Privacy	PC		3	0	0	0	0	30	45	3	75
TE7295	0701210649	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													
Embedded Systems Specialisation Core Courses													
TEE7042	0701210650	Model Based Design	PC		3	0	0	0	0	30	45	3	75
TEE7040	0701210651	Model Based Design Laboratory	PC		0	0	2	10	15	0	0	1	25
TEE7048	0701210652	Embedded Cyber Security	PC		3	0	0	0	0	30	45	3	75
Total					6	0	2	10	15	60	90	7	175
Semester : 6													
Automobile Engineering with Hybrid and Autonomous Technology Specialisation Core Courses													
TE7669	0701210653	Hybrid Technology	PC		2	0	0	0	0	20	30	2	50
F0002	0701210654	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
TE7435	0701210655	Automotive Engine and Transmission System	PC		3	0	0	0	0	30	45	3	75

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
Total					7	0	0	0	0	100	75	7	175
Semester : 6													
Aerial Robotics and Drone Technology Specialisation Core Courses													
TE7884	0701210656	Robotics Mobility and Perception	PC		3	0	0	0	0	30	45	3	75
TE7883	0701210657	Robotics Estimation and Learning	PC		2	0	0	0	0	20	30	2	50
TE7866	0701210658	Navigation and Communication Lab	PC		0	0	2	20	30	0	0	2	50
Total					5	0	2	20	30	50	75	7	175
Semester : 7													
Artificial Intelligence and Machine Learning Specialisation Core Courses													
T7805	0701210737	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701210738	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 Specialisation Core Courses													
T7805	0701210737	Specialization Project	PIS		0	0	10	50	75	0	0	5	125

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7802	0701210738	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													
Specialisation Core Courses													
T7805	0701210737	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701210738	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Embedded Systems													
Specialisation Core Courses													
T7802	0701210739	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701210740	Specialization Seminar	PIS		0	0	8	40	60	0	0	4	100
Total					0	0	12	60	90	0	0	6	150
Semester : 7													
Automobile Engineering with Hybrid and Autonomous Technology													
Specialisation Core Courses													
T7805	0701210737	Specialization Project	PIS		0	0	10	50	75	0	0	5	125

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28

Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialisation/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	La b	CA	ESE	CA	ESE		
T7802	0701210738	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175
Semester : 7													
Aerial Robotics and Drone Technology													
Specialisation Core Courses													
T7805	0701210737	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701210738	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
Total					0	0	14	70	105	0	0	7	175

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28
Annexure C
Optional 'Minor' Specialization

Semester	Continuous Assessment	Term End Examination	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
Embedded Systems				
Semester 5	0	7	7	175
Semester 6	0	7	7	175
Semester 7	0	6	6	150
Total	0	20	20	500
Automobile Engineering with Hybrid and Autonomous Technology				
Semester 5	2	4	6	150
Semester 6	2	5	7	175

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil Engineering)
Programme Structure 2024-28
Annexure C
Optional 'Minor' Specialization

Semester 7	0	7	7	175
Total	4	16	20	500
Aerial Robotics and Drone Technology				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	0	20	20	500