

Symbiosis Institute of Technology, Pune
Bachelor of Technology (Civil)
Programme Structure 2018-22

1.	OBJECTIVE					
2.	DURATION (IN MONTHS)	48 (Full Time)				
3.	INTAKE	60				
4.	RESERVATION	I. Within the sanctioned intake				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">a) SC (In Percentage)</td> <td style="width: 33%;">b) ST (In Percentage)</td> <td style="width: 33%;">c) Differently abled (In Percentage)</td> </tr> <tr> <td style="text-align: center;">15</td> <td style="text-align: center;">7.5</td> <td style="text-align: center;">3</td> </tr> </table>	a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)	15
a) SC (In Percentage)	b) ST (In Percentage)	c) Differently abled (In Percentage)				
15	7.5	3				
		II. Over and above the sanctioned intake				
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">a) Kashmiri Migrants (In Seats)</td> <td style="width: 50%;">b) International Students (In Percentage)</td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">15</td> </tr> </table>	a) Kashmiri Migrants (In Seats)	b) International Students (In Percentage)	2	15
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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> <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					
7.	MEDIUM OF INSTRUCTION					
8.	PROGRAMME PATTERN	Semester				
9.	COURSE & SPECIALIZATION					

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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						
12.	STANDARD OF PASSING						
13.	AWARD OF DEGREE						
14.	NATURE WISE DISTRIBUTION OF CREDITS						
Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	24	0	0	0	0	0	24
2	24	2	0	0	0	0	26
3	26	2	0	0	0	1*	28
4	25	0	0	0	0	0	25
5	22	3	0	0	0	0	25
6	0	17	0	0	0	0	17
7	18	3	0	7	0	0	28
8	21	0	0	6	0	0	27
Total	160	27	0	13	0	0	200

* Satisfactory completion of the letter grade course 'Integrated Disaster Management' is mandatory for award of degree.

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Annexure A

Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 1									
Generic Core Courses									
T7385	070121101	Engineering Mathematics -I		5	50	75	0	0	125
T7391	070121102	Physics		3	30	45	0	0	75
T7392	070121103	Physics lab		1	0	0	10	15	25
T7929	070121104	Basics of Surveying and Built Environment		3	30	45	0	0	75
T7930	070121105	Basics of Surveying and Built Environment Lab		1	0	0	10	15	25
T7484	070121106	Computer Programming		2	20	30	0	0	50
T7485	070121107	Computer Programming Lab		1	0	0	10	15	25
T7604	070121108	Basic Mechanical Engineering		3	30	45	0	0	75
T7605	070121109	Basic Mechanical Engineering lab		1	0	0	10	15	25
TE7077	070121110	Construction Materials		2	20	30	0	0	50
T7658	070121111	Workshop Practice		2	0	0	20	30	50
Total				24	180	270	60	90	600
Semester : 2									
Generic Core Courses									
T7943	070121201	Technical English & Communication Skill		2	50	0	0	0	50
T7944	070121202	Technical English & Communication Skill Lab		1	0	0	10	15	25
T7387	070121203	Engineering Mathematics-II		5	50	75	0	0	125
T7381	070121204	Chemistry		3	30	45	0	0	75
T7382	070121205	Chemistry Lab		1	0	0	10	15	25
T7540	070121206	Basic Electrical and Electronics Engineering		3	30	45	0	0	75
T7593	070121207	Basic Electrical and Electronics Engineering Lab		1	0	0	10	15	25
T7414	070121208	Engineering Mechanics		3	30	45	0	0	75
T7415	070121209	Engineering Mechanics Lab		1	0	0	10	15	25
T7924	070121210	Engineering Graphics		2	20	30	0	0	50
T7925	070121211	Engineering Graphics Lab		2	0	0	20	30	50
Total				24	210	240	60	90	600
Generic Elective Courses Group									
T7946	070121212	Economics for Engineers		2	50	0	0	0	50
Total Required Credits				2	50	0	0	0	50
Semester : 3									

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Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Generic Core Courses									
T7388	070121301	Engineering Mathematics-III		4	40	60	0	0	100
T7435	070121302	Solid Mechanics		4	40	60	0	0	100
T7436	070121303	Solid Mechanics Lab		1	0	0	10	15	25
T7403	070121304	Building design and drawing		4	40	60	0	0	100
T7404	070121305	Building Design and drawing Lab		1	0	0	10	15	25
T7422	070121306	Fluid Mechanics - I		4	40	60	0	0	100
T7423	070121307	Fluid Mechanics - I Lab		1	0	0	10	15	25
T7957	070121308	Building Construction Technology		3	30	45	0	0	75
T7958	070121309	Building Construction Technology Lab		1	0	0	10	15	25
T7959	070121310	Engineering Hydrology		3	30	45	0	0	75
T4005	070121311	Integrated Disaster Management *							Letter Grade
Total				26	220	330	40	60	650
Generic Elective Courses Group									
T6184	070121312	Basic German I		2	50	0	0	0	50
T6186	070121313	Basic French I		2	50	0	0	0	50
T6188	070121314	Basic Spanish I		2	50	0	0	0	50
Total Required Credits				2	50	0	0	0	50
Semester : 4									
Generic Core Courses									
T7960	070121401	Statistics, Probability and Numerical Methods		3	30	45	0	0	75
T7961	070121402	Statistics, Probability and Numerical Methods lab		1	0	0	10	15	25
T7438	070121403	Structural Analysis - I		4	40	60	0	0	100
T7962	070121404	Geology & Soil Mechanics		4	40	60	0	0	100
T7963	070121405	Geology & Soil Mechanics Lab		1	0	0	10	15	25
T7964	070121406	Fluid Mechanics II		3	30	45	0	0	75
T7425	070121407	Fluid Mechanics - II Lab		1	0	0	10	15	25
T7966	070121408	Advanced Surveying Lab		2	0	0	20	30	50
T8000	070121409	Service Learning		4	100	0	0	0	100
T2353	070121410	Entrepreneurship		2	50	0	0	0	50
Total				25	290	210	50	75	625
Semester : 5									
Generic Core Courses									

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T7437	070121501	Structural Analysis II		4	40	60	0	0	100
T7967	070121502	Railway Tunnel and Harbour Engineering		3	30	45	0	0	75
T7721	070121503	Quantity Surveying and Valuation		3	30	45	0	0	75
T7434	070121504	Quantity Surveying and Valuation Lab.		1	0	0	10	15	25
T7416	070121505	Environmental Engineering I		3	30	45	0	0	75
T7417	070121506	Environmental Engineering I Lab.		1	0	0	10	15	25
T7439	070121507	Structural Design I		4	40	60	0	0	100
T7440	070121508	Structural Design I Lab.		1	0	0	10	15	25
T7968	070121509	Foundation of Ethics		2	50	0	0	0	50
Total				22	220	255	30	45	550
Generic Elective Courses Group									
T7457	070121510	Integrated Water Resources Development and Management		3	30	45	0	0	75
T7499	070121511	Java		3	30	45	0	0	75
T7574	070121512	MATLAB		3	30	45	0	0	75
T7616	070121513	Fundamentals of Automotive Technology		3	30	45	0	0	75
T7020	070121514	Nanotechnology		3	30	45	0	0	75
T7393	070121515	Computer Based Statistical Packages		3	30	45	0	0	75
Total Required Credits				3	30	45	0	0	75
Semester : 6									
Group of Group									
Generic Elective Courses									
T7191	070121601	Internship (6 Months)		13	0	0	195	130	325
T7671	070121602	Seminar		4	0	0	60	40	100
Generic Elective Courses									
T7905	070121604	Internship(6-8 Weeks)		5	0	0	75	50	125
T7048	070121605	Project Management		4	40	60	0	0	100
T7804	070121606	Mini Project		4	0	0	40	60	100
T7969	070121607	Case studies on sustainable environment		2	0	0	20	30	50
T7970	070121608	Software Applications in civil engineering		2	0	0	20	30	50
Total Required Credits				17	40	60	155	170	425

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Semester : 7									
Generic Core Courses									
T7419	070121701	Environmental Engineering II		3	30	45	0	0	75
T7420	070121702	Environmental Engineering II Lab		1	0	0	10	15	25
T7441	070121703	Structural Design II		4	40	60	0	0	100
T7442	070121704	Structural Design II Lab		1	0	0	10	15	25
T7971	070121705	Highway Engineering		3	30	45	0	0	75
T7972	070121706	Highway Engineering Lab		1	0	0	10	15	25
T7454	070121707	Water Resources Engineering		3	30	45	0	0	75
TE7082	070121708	Project Planning and Charter		2	0	0	20	30	50
Total				18	130	195	50	75	450
Specialization : Civil Engineering									
T7973	070121710	Bridge Engineering & design		4	40	60	0	0	100
T7974	070121711	Waste Management Systems		4	40	60	0	0	100
T7975	070121712	Green building technology		4	40	60	0	0	100
T7976	070121713	Environmental Geotechnics		4	40	60	0	0	100
T7977	070121714	Pavement Design & Construction		4	40	60	0	0	100
T7978	070121715	Advanced Design of RCC structures		4	40	60	0	0	100
T7453	070121716	Water Power Engineering		4	40	60	0	0	100
T7979	070121717	Applied Soil Mechanics		4	40	60	0	0	100
Total Required Credits				4	40	60	0	0	100
Specialization : Civil Engineering									
T7980	070121718	Glass Facade Engineering		3	30	45	0	0	75
T7981	070121719	Town Planning		3	30	45	0	0	75
T7982	070121720	Intergrated Water Resource Management in India		3	30	45	0	0	75
T7983	070121721	Ground Improvement Techniques		3	30	45	0	0	75
T7984	070121722	Computer Applications in Construction Management		3	30	45	0	0	75
T7985	070121723	Urban Transport Management		3	30	45	0	0	75
Total Required Credits				3	30	45	0	0	75

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Generic Elective Courses Group									
T7456	070121724	Town & Country Planning		3	30	45	0	0	75
T7509	070121725	Open Source Technologies		3	30	45	0	0	75
T7474	070121726	Basics of Database		3	30	45	0	0	75
T7584	070121727	Printed Circuit Board (PCB) Design		3	30	45	0	0	75
T7650	070121728	Six sigma		3	30	45	0	0	75
T7394	070121729	Smart Materials		3	30	45	0	0	75
Total Required Credits				3	30	45	0	0	75
Semester : 8									
Generic Core Courses									
T7804	070121801	B.Tech Project		4	0	0	40	60	100
T7987	070121802	Foundation Engineering		4	40	60	0	0	100
T7443	070121803	Structural Design III		3	30	45	0	0	75
T7444	070121804	Structural Design III Lab		1	0	0	10	15	25
T7408	070121805	Dams and Hydraulic Structures		3	30	45	0	0	75
T7409	070121806	Dams and Hydraulic Structures Lab		1	0	0	10	15	25
T7988	070121807	Optimization in Civil Engineering		3	30	45	0	0	75
T7674	070121808	Cyber Security		2	50	0	0	0	50
Total				21	180	195	60	90	525
Specialization : Civil Engineering									
T7954	070121809	Elementary Remote Sensing and GIS		3	30	45	0	0	75
T7953	070121810	Airport Engineering		3	30	45	0	0	75
T7955	070121811	Professional Practices in Construction		3	30	45	0	0	75
T7989	070121812	Geosynthetics and Applications		3	30	45	0	0	75
T7990	070121813	Advanced Concrete Technology		3	30	45	0	0	75
Total Required Credits				3	30	45	0	0	75
Specialization : Civil Engineering									
T7951	070121814	Introduction to Coastal Engineering		3	30	45	0	0	75
T7991	070121815	Introduction To finite Element Method		3	30	45	0	0	75

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T7992	070121816	Modern Construction Techniques		3	30	45	0	0	75
T7993	070121817	Environmental Impact Assessment		3	30	45	0	0	75
T7994	070121818	Traffic Engineering and Management		3	30	45	0	0	75
Total Required Credits				3	30	45	0	0	75

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Semester	Internal Credits	External Credits	Total Credits	Total Marks
Civil Engineering				
Semester 1	0	24	24	600
Semester 2	4	22	26	650
Semester 3	2	26	28	700
Semester 4	6	19	25	625
Semester 5	2	23	25	625
Semester 6	0	17	17	425
Semester 7	0	28	28	700
Semester 8	2	25	27	675
Total	16	184	200	5000