Symbiosis Institute of Technology, Pune
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<table>
<tr><td>1.</td><td>OBJECTIVE</td><td colspan="4">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.
Being a professional programme it ensures a healthy balance between theoretical foundation and practical exposure to the present day world.
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.</td></tr>
<tr><td>2.</td><td>DURATION (IN MONTHS)</td><td colspan="4">48 (Full Time)</td></tr>
<tr><td>3.</td><td>INTAKE</td><td colspan="4">120</td></tr>
<tr><td rowspan="4">4.</td><td rowspan="4">RESERVATION</td><td rowspan="2">I.Within the sanctioned intake</td><td>a) SC
(In Percentage)</td><td>b) ST
(In Percentage)</td><td>c) Differently abled
(In Percentage)</td></tr>
<tr><td>15</td><td>7.5</td><td>3</td></tr>
<tr><td rowspan="2">II.Over and above the sanctioned intake</td><td colspan="2">a) Kashmiri Migrants
(In Seats)</td><td>b) International Students
(In Percentage)</td></tr>
<tr><td colspan="2">2</td><td>20</td></tr>
<tr><td>5.</td><td>ELIGIBILITY</td><td colspan="4">Passed 10+2 examination with Physics and Mathematics as compulsory subjects along with one of Chemistry/ Computer Science/ Electronics/ Information Technology/Biology/Informatics Practices/ Biotechnology/Technical Vocational subject/ Agriculture/Engineering Graphics/Business Studies /Entrepreneurship. Obtained at least 45% marks (40% marks in case of candidates belonging to reserved category) in the above subjects taken together.
OR
Passed D.Voc. Stream in the same or allied sector.(The University will offer suitable bridge courses such as Mathematics, Physics,</td></tr>
</table>

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		Engineering drawing, etc., for the students coming from diverse backgrounds to prepare Level playing field and desired learning outcomes of the programme) B. Tech (Lateral entry to second year) : 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 at least 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)
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 & SPECIALISATION**	Annexure A: Bachelor of Technology (Electronics and Telecommunication) Students may pursue optional 'Honours' OR 'Minor' specialisation in one of the specialisation 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 specialisation area. Annexure B: Optional 'Honours' specialisation area 1. Computer Vision 2. Embedded Systems 3. Mechatronics 4. Modern Computer Networking 5. Semiconductor Technology Annexure C: Optional 'Minor' specialisation area

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		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 (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**	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**	Bachelor of Technology (Electronics and Telecommunication) OR Bachelor of Technology (Electronics and Telecommunication) with Honours in Computer Vision / Embedded Systems / Mechatronics / Modern Computer Networking / Semiconductor Technology. OR Bachelor of Technology (Electronics and Telecommunication) 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 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-Credit Audit Course/s	Total
Common								
1	19	0	0	0	0	1 *	As per the student's choice	19
2	21	0	0	0	0	0		21
3	21	2	0	0	0	1 *		23
4	23	1	0	0	0	1 *		24
5	14	6	0	0	3	1 *		23
6	15	8	0	0	3	0		26
7	12	8	0	0	0	0		20
8	14	0	0	0	0	0		14
Total	**139**	**25**	**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 non credit courses 'Health and Wellness Module I', 'Health and Wellness Module II', '*Vasudhaiva Kutumbakam*' and 'Environmental Science' is mandatory for award of degree.

The revised programme structure supersedes the previously approved programme structure dated 30/09/2025 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

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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	Lab	CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TE7680	0701230101	Mathematics-I	BS		2	1	0	0	0	30	45	3	75
TE7685	0701230102	Physics for Electronics Engineers	BS		3	0	0	0	0	30	45	3	75
TE7687	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
TE7288	0701230106	Programming in C	ES		3	0	0	0	0	30	45	3	75
TE7289	0701230107	Programming in C Lab	ES		0	0	2	10	15	0	0	1	25
T6873	0701230108	Creative Thinking	HS		1	0	0	0	0	25	0	1	25
TE7787	0701230109	Introduction to Electronics and Telecommunication Engineering	ES		1	0	0	0	0	25	0	1	25
TE7767	0701230110	Computational Techniques	ES		3	0	0	0	0	75	0	3	75
TE7188	0701230111	Environmental Science *			0	0	0	0	0	0	0	0	0
				Total	**15**	**1**	**6**	**30**	**45**	**235**	**165**	**19**	**475**
Semester : 2													
Generic Core Courses													
TE7681	0701230201	Mathematics II	BS		3	1	0	0	0	40	60	4	100

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7785	0701230202	Fundamentals of Electrical and Electronics Engineering	ES		3	0	0	0	0	30	45	3	75
TE7786	0701230203	Fundamentals of Electrical and Electronics Engineering Lab	ES		0	0	2	10	15	0	0	1	25
TE7694	0701230204	Chemistry	BS		3	0	0	0	0	30	45	3	75
TE7695	0701230205	Chemistry Lab	BS		0	0	2	10	15	0	0	1	25
TE7286	0701230206	Programming and Problem Solving	ES		2	0	0	0	0	20	30	2	50
TE7287	0701230207	Programming and Problem Solving Lab	ES		0	0	2	10	15	0	0	1	25
T7925	0701230208	Engineering Graphics Lab	ES		0	0	4	20	30	0	0	2	50
T6732	0701230209	Critical Thinking	HS		1	0	0	0	0	25	0	1	25
TE7772	0701230210	Data Analytics with Excel	ES		0	0	2	25	0	0	0	1	25
TE7300	0701230211	Tinker Lab	ES		0	0	4	50	0	0	0	2	50
Total					**12**	**1**	**16**	**125**	**75**	**145**	**180**	**21**	**525**
Semester : 3													
Generic Core Courses													
TE7678	0701230301	Mathematical Transform Techniques	BS		2	1	0	0	0	30	45	3	75
TE7679	0701230302	Mathematical Transform Techniques Lab	BS		0	0	2	10	15	0	0	1	25
TE7083	0701230303	Signals and Systems	PC		3	0	0	0	0	30	45	3	75
TE7320	0701230304	Electronic Devices and Circuits	PC		3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	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
TE7322	0701230307	Electronic Measurements Lab	PC		0	0	2	10	15	0	0	1	25
TE7773	0701230308	Digital Circuits and Logic Design	PC		3	0	0	0	0	30	45	3	75
TE7774	0701230309	Digital Circuits and Logic Design Lab	PC		0	0	2	10	15	0	0	1	25
F7065	0701230310	C++ and Data Structures	PC		0	0	4	50	0	0	0	2	50
TH4788	0701230311	Health and Wellness Module I *			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
				Total	**14**	**1**	**12**	**90**	**60**	**150**	**225**	**21**	**525**
Generic Elective Courses Group (Choose any one course)													
T6184	0701230312	Basic German I	GE		2	0	0	0	0	50	0	2	50
T6188	0701230313	Basic Spanish I	GE		2	0	0	0	0	50	0	2	50
T6186	0701230314	Basic French 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													

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7770	0701230401	Control Systems	PC		3	0	0	0	0	30	45	3	75
T7548	0701230402	Control Systems Lab	PC		0	0	2	10	15	0	0	1	25
TE7780	0701230403	Electromagnetic Field Theory	PC		2	1	0	0	0	30	45	3	75
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
T2646	0701230408	Entrepreneurship Venture	HS		1	0	0	0	0	25	0	1	25
T8000	0701230409	Service Learning	HS		0	0	8	100	0	0	0	4	100
F7098	0701230410	Hands-On Microcontrollers: From Theory to Practice	PC		3	0	0	0	0	75	0	3	75
TH4789	0701230413	Health and Wellness Module II *			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
				Total	**15**	**1**	**14**	**130**	**45**	**220**	**180**	**23**	**575**
Generic Elective Course Group (Choose any one course)													
T6760	0701230411	Introduction to Indian Philosophy	GE		1	0	0	0	0	25	0	1	25

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
T6872	0701230412	Foundation of Ethics	GE		1	0	0	0	0	25	0	1	25
Total Required Credits								**0**	**0**	**25**	**0**	**1**	**25**
Transferred Student/s													
TE7288	0701230414	Programming in C *	ES		3	0	0	0	0	30	45	3	75
TE7289	0701230415	Programming in C Lab *	ES		0	0	2	10	15	0	0	1	25
T6732	0701230416	Critical Thinking *	HS		1	0	0	0	0	25	0	1	25
TE7772	0701230417	Data Analytics with Excel *	ES		0	0	2	25	0	0	0	1	25
TE7300	0701230418	Tinker Lab *	ES		0	0	4	50	0	0	0	2	50
Note: Student with PRN - 25070123508, will have to additionally complete the course Programming in C (0701230414), Programming in C Lab (0701230415), Critical Thinking (0701230416), Data Analytics with Excel (0701230417), Tinker Lab (0701230418) in the Semester 4.													
Semester : 5													
Generic Core Courses													
TE7777	0701230501	Digital Signal Processing	PC		3	0	0	0	0	30	45	3	75
T7559	0701230502	Digital Signal Processing Lab	PC		0	0	2	10	15	0	0	1	25
TE7086	0701230503	VLSI Design	PC		3	0	0	0	0	30	45	3	75
T7592	0701230504	VLSI Design Lab	PC		0	0	2	10	15	0	0	1	25
TE7791	0701230505	Microcontrollers and Applications	PC		3	0	0	0	0	75	0	3	75
T7576	0701230506	Microcontrollers and Applications Lab	PC		0	0	2	10	15	0	0	1	25

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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	Lab	CA	ESE	CA	ESE		
T6749	0701230507	Design Thinking	HS		2	0	0	0	0	50	0	2	50
SMC001	0701230559	*Vasudhaiva Kutumbakam **			0	0	0	0	0	0	0	Mandatory Non-Credit Course	0
				Total	**11**	**0**	**6**	**30**	**45**	**185**	**90**	**14**	**350**
Generic Elective Courses Group - I (Choose any one group 'A' to 'F') Generic Elective Courses Group - A													
TE7792	0701230508	Microwaves, Radar and Electronic Navigation	PE		3	0	0	0	0	30	45	3	75
TE7793	0701230509	Microwaves, Radar and Electronic Navigation Lab	PE		0	0	2	10	15	0	0	1	25
				Total Required Credits				**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Course Group - B													
TE7088	0701230510	Digital Image Processing	PE		3	0	0	0	0	30	45	3	75
T7094	0701230511	Digital Image Processing Lab	PE		0	0	2	10	15	0	0	1	25
				Total Required Credits				**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - C													
TE7765	0701230512	CMOS VLSI Design	PE		3	0	0	0	0	30	45	3	75
TE7766	0701230513	CMOS VLSI Design Lab	PE		0	0	2	10	15	0	0	1	25

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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	Lab	CA	ESE	CA	ESE		
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - D													
TE7796	0701230514	Operating Systems Fundamentals	PE		3	0	0	0	0	30	45	3	75
TE7797	0701230515	Operating Systems Fundamentals Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - E													
TE7040	0701230516	Robotics and Automation	PE		3	0	0	0	0	30	45	3	75
TE7041	0701230517	Robotics and Automation Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - F													
TE7085	0701230518	Power Electronics	PE		3	0	0	0	0	30	45	3	75
T7583	0701230519	Power Electronics Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group II (Choose any one course)													
TE7438	0701230520	History of Science and Technology	GE		2	0	0	0	0	50	0	2	50
T2585	0701230521	Organizational Behaviour	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								**0**	**0**	**50**	**0**	**2**	**50**

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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	Lab	CA	ESE	CA	ESE		
Open Elective Courses Group (Choose any one course)													
TE7698	0701230522	Nanotechnology	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7676	0701230523	Executive Corporate Communication For Impact	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7195	0701230524	GIS Applications	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7203	0701230525	Intelligent Transportation Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7297	0701230526	Software Testing Tools	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7756	0701230527	Open Source Technologies	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
T7584	0701230528	Printed Circuit Board (PCB) Design	OE	Electronics and Telecommunication Engineering	3	0	0	0	0	30	45	3	75
TE7334	0701230529	Introduction to Mechatronics	OE	Electronics and Telecommunication Engineering	3	0	0	0	0	30	45	3	75
TEE7044	0701230530	Data Modelling and Analytics for Battery Energy Storage Systems	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7351	0701230531	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**

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Semester : 6													
Generic Core Courses													
TE7316	0701230601	Digital Communication	PC		3	0	0	0	0	30	45	3	75
T7552	0701230602	Digital Communication Lab	PC		0	0	2	10	15	0	0	1	25
T7802	0701230603	Capstone Course	PC		2	0	0	0	0	50	0	2	50
TE7788	0701230604	IPR for Engineers	ES		1	0	0	0	0	25	0	1	25
TE7798	0701230605	Project Based Learning	PIS		0	0	4	50	0	0	0	2	50
F0004	0701230606	Flexi-Credit Course	PC		4	0	0	0	0	100	0	4	100
T6774	0701230607	Principles of Economics	HS		2	0	0	0	0	50	0	2	50
				Total	**12**	**0**	**6**	**60**	**15**	**255**	**45**	**15**	**375**
Generic Elective Courses Group - I (Choose any one group 'A' to 'F') Generic Elective Courses Group- A													
TE7090	0701230608	Antenna and Wave Propagation	PE		3	0	0	0	0	30	45	3	75
TE7091	0701230609	Antenna and Wave Propagation Lab	PE		0	0	2	10	15	0	0	1	25
				Total Required Credits				**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - B													
T7473	0701230610	Artificial Intelligence	PE		3	0	0	0	0	30	45	3	75
TE7014	0701230611	Artificial Intelligence Lab	PE		0	0	2	10	15	0	0	1	25
				Total Required Credits				**10**	**15**	**30**	**45**	**4**	**100**

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Generic Elective Courses Group - C													
TE7783	0701230612	FPGA Design	PE		3	0	0	0	0	30	45	3	75
TE7784	0701230613	FPGA Design Lab	PE		0	0	2	10	15	0	0	1	25
		Total Required Credits						**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group -D													
TE7045	0701230614	IoT and Applications	PE		3	0	0	0	0	30	45	3	75
TE7048	0701230615	IoT and Applications Lab	PE		0	0	2	10	15	0	0	1	25
		Total Required Credits						**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group 'E'													
TE7653	0701230616	PLC and SCADA	PE		3	0	0	0	0	30	45	3	75
TE7596	0701230617	PLC Programming Lab	PE		0	0	2	10	15	0	0	1	25
		Total Required Credits						**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - F													
TE7306	0701230618	Biomedical Electronics	PE		3	0	0	0	0	30	45	3	75
TE7307	0701230619	Biomedical Electronics Lab	PE		0	0	2	10	15	0	0	1	25
		Total Required Credits						**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - II (Choose any one group 'G' to 'L') Generic Elective Courses Group- G													
T7908	0701230620	Computer Networks	PE		3	0	0	0	0	30	45	3	75

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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	Lab	CA	ESE	CA	ESE		
T7482	0701230621	Computer Networks Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - H													
TE7753	0701230622	Deep Learning	PE		3	0	0	0	0	30	45	3	75
TE7754	0701230623	Deep Learning Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Elective Courses Group - I													
TE7794	0701230624	Mixed Signal Design	PE		3	0	0	0	0	30	45	3	75
TE7795	0701230625	Mixed Signal Design Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - J													
TE7799	0701230626	Real Time Systems	PE		3	0	0	0	0	30	45	3	75
TE7800	0701230627	Real Time Systems Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - K													
TE7089	0701230628	Modern Control Theory	PE		3	0	0	0	0	30	45	3	75
TE7039	0701230629	Modern Control Theory Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**

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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	Lab	CA	ESE	CA	ESE		
Generic Elective Courses Group - L													
TE7768	0701230630	Consumer Electronics	PE		3	0	0	0	0	30	45	3	75
TE7769	0701230631	Consumer Electronics Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Open Elective Courses Group (Choose any one course)													
TE7677	0701230632	Financial Mathematics	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7700	0701230633	Smart Materials	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7223	0701230634	Smart Urban Planning	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7240	0701230635	Water Resource Planning and Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7948	0701230636	Introduction to Cloud Computing	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7952	0701230637	User Interface and Experience Design	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TEE7018	0701230638	Engineering Simulation and Modeling Tools	OE	Electronics and Telecommunication Engineering	3	0	0	0	0	30	45	3	75
TE7428	0701230639	Introduction to Image Processing	OE	Electronics and Telecommunication Engineering	3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7810	0701230640	Industrial Revolution and Introduction of Industry 5.0	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
T7650	0701230641	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	0701230701	B.Tech Project	PIS		0	0	8	40	60	0	0	4	100
TEE7098	0701230702	Cyber Security	PC		2	0	0	0	0	50	0	2	50
TE7691	0701230703	Statistics, Probability and Numerical Methods	BS		3	0	0	0	0	30	45	3	75
TE7692	0701230704	Statistics, Probability and Numerical Methods Lab	BS		0	0	2	10	15	0	0	1	25
F0002	0701230705	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
Total					**7**	**0**	**10**	**50**	**75**	**130**	**45**	**12**	**300**
Generic Elective Courses Group - I (Choose any one Group 'A' to 'E') Generic Elective Courses Group- A													
TE7762	0701230706	5G Technology	PE		3	0	0	0	0	30	45	3	75
TE7763	0701230707	5G Technology Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group -B													

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7342	0701230708	Speech and Audio Signal Processing	PE		3	0	0	0	0	30	45	3	75
TE7343	0701230709	Speech and Audio Signal Processing Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - C													
TE7789	0701230710	Low Power VLSI Design	PE		3	0	0	0	0	30	45	3	75
TE7790	0701230711	Low Power VLSI Design Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group -D													
TE7781	0701230712	Embedded Artificial Intelligence	PE		3	0	0	0	0	30	45	3	75
TE7782	0701230713	Embedded Artificial Intelligence Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - E													
TE7778	0701230714	Electric Vehicles	PE		3	0	0	0	0	30	45	3	75
TE7779	0701230715	Electric Vehicle Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - II (Choose any one group 'F' to 'K') Generic Elective Courses Group - F													
TE7326	0701230716	Fiber Optics And Satellite Communication	PE		3	0	0	0	0	30	45	3	75
TE7327	0701230717	Fiber Optics And Satellite Communication Lab	PE		0	0	2	10	15	0	0	1	25

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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	Lab	CA	ESE	CA	ESE		
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group- G													
TE7484	0701230718	Computer Vision	PE		3	0	0	0	0	30	45	3	75
TE7485	0701230719	Computer Vision Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - H													
TE7775	0701230720	Digital Design Verification	PE		3	0	0	0	0	30	45	3	75
TE7776	0701230721	Digital Design Verification Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - I													
TE7618	0701230722	Cyber Physical System	PE		3	0	0	0	0	30	45	3	75
TE7771	0701230723	Cyber Physical System Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group- J													
TE7832	0701230724	Building Automation	PE		3	0	0	0	0	30	45	3	75
TE7764	0701230725	Building Automation Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
Generic Elective Courses Group - K													

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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	Lab	CA	ESE	CA	ESE		
TE7349	0701230726	Wireless Sensor Network	PE		3	0	0	0	0	30	45	3	75
TE7801	0701230727	Wireless Sensor Network Laboratory	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**30**	**45**	**4**	**100**
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	20	30	0	0	2	50
Total					**0**	**0**	**28**	**140**	**210**	**0**	**0**	**14**	**350**

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

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Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Semester 1	5	14	19	475
Semester 2	4	17	21	525
Semester 3	4	19	23	575
Semester 4	9	15	24	600
Semester 5	7	16	23	575
Semester 6	11	15	26	650
Semester 7	4	16	20	500
Semester 8	0	14	14	350
Total	**44**	**126**	**170**	**4250**

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Optional 'Honours' Specialisation

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	Lab	CA	ESE	CA	ESE		
Semester : 5													
Computer Vision Specialisation Core Courses													
TE7328	0701230532	Image Processing	PC	Computer Vision	3	0	0	0	0	30	45	3	75
TE7329	0701230533	Image Processing Lab	PC	Computer Vision	0	0	2	10	15	0	0	1	25
T3560	0701230534	Computer Vision	PC	Computer Vision	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 5													
Embedded Systems Specialisation Core Courses													
TEE7047	0701230535	Microcontrollers and Embedded C Programming	PC	Embedded Systems	3	0	0	0	0	30	45	3	75
TEE7046	0701230536	Microcontrollers and Embedded C Programming Lab	PC	Embedded Systems	0	0	2	10	15	0	0	1	25
TE7991	0701230537	Automotive Embedded System	PC	Embedded Systems	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 5													
Mechatronics Specialisation Core Courses													

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Optional 'Honours' Specialisation

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	Lab	CA	ESE	CA	ESE		
T7816	0701230538	Automation and Robotics	PC		3	0	0	0	0	30	45	3	75
T7810	0701230539	Automation and Robotics Lab	PC		0	0	2	10	15	0	0	1	25
T7640	0701230540	Mechatronics	PC		3	0	0	0	0	30	45	3	75
		Total			**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 5													
Modern Computer Networking Specialisation Core Courses													
TEE7062	0701230541	5G/6G Network Fundamentals	PC	Modern Computer Networking	3	0	0	0	0	30	45	3	75
TEE7061	0701230542	5G/6G Network Fundamentals Lab	PC	Modern Computer Networking	0	0	2	10	15	0	0	1	25
TE7295	0701230543	Software Defined Networking	PC	Modern Computer Networking	3	0	0	0	0	30	45	3	75
		Total			**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 5													
Semiconductor Technology Specialisation Core Courses													
TEE7057	0701230544	Introduction to Microfabrication	PC	Semiconductor Technology	3	0	0	0	0	30	45	3	75
TEE7056	0701230545	Introduction to Microfabrication Lab	PC	Semiconductor Technology	0	0	2	10	15	0	0	1	25
TEE7058	0701230546	Semiconductor Equipment Design and Technology	PC	Semiconductor Technology	3	0	0	0	0	30	45	3	75

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Optional 'Honours' Specialisation

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	Lab	CA	ESE	CA	ESE		
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 6													
Computer Vision Specialisation Core Courses													
TEE7065	0701230642	Artificial Intelligence/Machine Learning based Computer Vision Techniques	PC	Computer Vision	3	0	0	0	0	30	45	3	75
TEE7063	0701230643	Artificial Intelligence/Machine Learning based Computer Vision Techniques Lab	PC	Computer Vision	0	0	2	10	15	0	0	1	25
TEE7064	0701230644	Object Detection and Tracking	PC	Computer Vision	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 6													
Embedded Systems Specialisation Core Courses													
TEE7042	0701230645	Model Based Design	PC	Embedded Systems	3	0	0	0	0	30	45	3	75
TEE7040	0701230646	Model Based Design Laboratory	PC	Embedded Systems	0	0	2	10	15	0	0	1	25
TEE7048	0701230647	Embedded Cyber Security	PC	Embedded Systems	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 6													

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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	Lab	CA	ESE	CA	ESE		
Mechatronics Specialisation Core Courses													
TEE7051	0701230648	Process Control	PC	Mechatronics	3	0	0	0	0	30	45	3	75
TEE7050	0701230649	Process Control Lab	PC	Mechatronics	0	0	2	10	15	0	0	1	25
TE7848	0701230650	Industrial Internet of Things	PC	Mechatronics	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 6													
Modern Computer Networking Specialisation Core Courses													
TEE7053	0701230651	Advanced Computer Networking Protocols	PC	Modern Computer Networking	3	0	0	0	0	30	45	3	75
TEE7052	0701230652	Advanced Computer Networking Protocols Lab	PC	Modern Computer Networking	0	0	2	10	15	0	0	1	25
TEE7039	0701230653	Cryptography and Network Security	PC	Modern Computer Networking	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 6													
Semiconductor Technology Specialisation Core Courses													
TEE7060	0701230654	Application-Specific Integrated Circuit Design and Fabrication	PC	Semiconductor Technology	3	0	0	0	0	30	45	3	75

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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	Lab	CA	ESE	CA	ESE		
TEE7059	0701230655	Application-Specific Integrated Circuit Design and Fabrication Lab	PC	Semiconductor Technology	0	0	2	10	15	0	0	1	25
TEE7049	0701230656	Semiconductor Materials Synthesis and Characterization	PC	Semiconductor Technology	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**2**	**10**	**15**	**60**	**90**	**7**	**175**
Semester : 7													
Computer Vision Specialisation Core Courses													
T7802	0701230728	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701230729	Specialization Seminar	PIS	Computer Vision	0	0	8	40	60	0	0	4	100
				Total	**0**	**0**	**12**	**60**	**90**	**0**	**0**	**6**	**150**
Semester : 7													
Embedded Systems Specialisation Core Courses													
T7802	0701230728	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701230729	Specialization Seminar	PIS	Embedded Systems	0	0	8	40	60	0	0	4	100
				Total	**0**	**0**	**12**	**60**	**90**	**0**	**0**	**6**	**150**
Semester : 7													

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Optional 'Honours' Specialisation

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	Lab	CA	ESE	CA	ESE		
Mechatronics Specialisation Core Courses													
T7802	0701230728	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701230729	Specialization Seminar	PIS	Mechatronics	0	0	8	40	60	0	0	4	100
		Total			**0**	**0**	**12**	**60**	**90**	**0**	**0**	**6**	**150**
Semester : 7													
Modern Computer Networking Specialisation Core Courses													
T7802	0701230728	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701230729	Specialization Seminar	PIS	Modern Computer Networking	0	0	8	40	60	0	0	4	100
		Total			**0**	**0**	**12**	**60**	**90**	**0**	**0**	**6**	**150**
Semester : 7													
Semiconductor Technology Specialisation Core Courses													
T7802	0701230728	Specialization Project	PIS		0	0	4	20	30	0	0	2	50
T7804	0701230729	Specialization Seminar	PIS	Semiconductor Technology	0	0	8	40	60	0	0	4	100
		Total			**0**	**0**	**12**	**60**	**90**	**0**	**0**	**6**	**150**

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Optional 'Honours' Specialisation

Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Computer Vision				
Semester 5	0	7	7	175
Semester 6	0	7	7	175
Semester 7	0	6	6	150
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**
Mechatronics				
Semester 5	0	7	7	175
Semester 6	0	7	7	175
Semester 7	0	6	6	150
Total	**0**	**20**	**20**	**500**
Modern Computer Networking				
Semester 5	0	7	7	175
Semester 6	0	7	7	175
Semester 7	0	6	6	150
Total	**0**	**20**	**20**	**500**
Semiconductor Technology				
Semester 5	0	7	7	175
Semester 6	0	7	7	175

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Semester 7	0	6	6	150
Total	**0**	**20**	**20**	**500**

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Annexure C
Optional 'Minor' Specialisation

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	Lab	CA	ESE	CA	ESE		
Semester : 5													
Artificial Intelligence and Machine Learning Specialisation Core Courses													
TE7273	0701230547	Machine Learning: Classification	PC	Artificial Intelligence and Machine Learning	3	0	0	0	0	30	45	3	75
TE7274	0701230548	Machine Learning: Regression	PC	Artificial Intelligence and Machine Learning	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	0701230549	Open Source Tools for Data Science	PC	Data Science	4	0	0	0	0	40	60	4	100
TE7292	0701230550	R Programming	PC	Data Science	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	0701230551	Introduction to IOT	PC	Internet of Things	4	0	0	0	0	40	60	4	100
TE7293	0701230552	Raspberry Pi and Python	PC	Internet of Things	3	0	0	0	0	30	45	3	75

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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	Lab	CA	ESE	CA	ESE		
				Total	**7**	**0**	**0**	**0**	**0**	**70**	**105**	**7**	**175**
Semester : 5													
Smart Cities and Urban Analytics Specialisation Core Courses													
TE7220	0701230553	Smart Cities : Context Policy and Governance	PC	Smart Cities and Urban Analytics	3	0	0	0	0	30	45	3	75
TE7206	0701230554	IOT for Smart Cities	PC	Smart Cities and Urban Analytics	3	0	0	0	0	30	45	3	75
TE7207	0701230555	IOT for Smart Cities Lab	PC	Smart Cities and Urban Analytics	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 Specialisation Core Courses													
TE7355	0701230556	Basics of Automotive Engineering	PC	Automobile Engineering with Hybrid and Autonomous Technology	3	0	0	0	0	30	45	3	75
TE7665	0701230557	Automotive Electronics and Instrumentation	PC	Automobile Engineering with Hybrid and Autonomous Technology	2	0	0	0	0	0	50	2	50

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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	Lab	CA	ESE	CA	ESE		
TE7666	0701230558	Automotive Vehicle Dynamics and NVH Lab	PC	Automobile Engineering with Hybrid and Autonomous Technology	0	0	2	10	15	0	0	1	25
				Total	**5**	**0**	**2**	**10**	**15**	**30**	**95**	**6**	**150**
Semester : 6													
Artificial Intelligence and Machine Learning Specialisation Core Courses													
TE7271	0701230657	Machine Learning Clustering and Retrieval	PC	Artificial Intelligence and Machine Learning	3	0	0	0	0	30	45	3	75
TE7266	0701230658	Introduction to Deep Learning	PC	Artificial Intelligence and Machine Learning	4	0	0	0	0	40	60	4	100
				Total	**7**	**0**	**0**	**0**	**0**	**70**	**105**	**7**	**175**
Semester : 6													
Data Science Specialisation Core Courses													
TE7247	0701230659	Business Analytics	PC	Data Science	3	0	0	0	0	30	45	3	75
TE7284	0701230660	Power BI	PC	Data Science	3	0	0	0	0	30	45	3	75
				Total	**6**	**0**	**0**	**0**	**0**	**60**	**90**	**6**	**150**
Semester : 6													

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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	Lab	CA	ESE	CA	ESE		
Internet of Things Specialisation Core Courses													
TE7269	0701230661	IOT Security and Privacy	PC	Internet of Things	3	0	0	0	0	30	45	3	75
TE7295	0701230662	Software Defined Networking	PC	Internet of Things	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 Specialisation Core Courses													
T7802	0701230663	Specialization Project	PIS		0	0	4	50	0	0	0	2	50
T7802	0701230664	Specialization Seminar	PIS		0	0	4	50	0	0	0	2	50
TE7177	0701230665	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 Specialisation Core Courses													
TE7669	0701230666	Hybrid Technology	PC		2	0	0	0	0	20	30	2	50
F0002	0701230667	Flexi-Credit Course	PC		2	0	0	0	0	50	0	2	50
TE7435	0701230668	Automotive Engine and Transmission System	PC		3	0	0	0	0	30	45	3	75

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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	Lab	CA	ESE	CA	ESE		
				Total	**7**	**0**	**0**	**0**	**0**	**100**	**75**	**7**	**175**
Semester : 7													
Artificial Intelligence and Machine Learning Specialisation Core Courses													
T7805	0701230730	Specialization Project	PIS	Artificial Intelligence and Machine Learning	0	0	10	50	75	0	0	5	125
T7802	0701230731	Specialization Seminar	PIS	Artificial Intelligence and Machine Learning	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	0701230730	Specialization Project	PIS	Data Science	0	0	10	50	75	0	0	5	125
T7802	0701230731	Specialization Seminar	PIS	Data Science	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	0701230730	Specialization Project	PIS	Internet of Things	0	0	10	50	75	0	0	5	125

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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	Lab	CA	ESE	CA	ESE		
T7802	0701230731	Specialization Seminar	PIS	Internet of Things	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 Specialisation Core Courses													
T7803	0701230732	Specialization Project	PIS	Smart Cities and Urban Analytics	0	0	6	30	45	0	0	3	75
				Total	**0**	**0**	**6**	**30**	**45**	**0**	**0**	**3**	**75**
Specialisation Elective : Smart Cities and Urban Analytics													
TE7205	0701230733	Intelligent Transportation Systems	PE		3	0	0	0	0	30	45	3	75
TE7234	0701230734	Urban Hydrology and Hydraulics	PE		3	0	0	0	0	30	45	3	75
				Total Required Credits				**0**	**0**	**30**	**45**	**3**	**75**
Semester : 7													
Automobile Engineering with Hybrid and Autonomous Technology Specialisation Core Courses													
T7805	0701230730	Specialization Project	PIS	Automobile Engineering with Hybrid and Autonomous Technology	0	0	10	50	75	0	0	5	125

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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	Lab	CA	ESE	CA	ESE		
T7802	0701230731	Specialization Seminar	PIS	Automobile Engineering with Hybrid and Autonomous Technology	0	0	4	20	30	0	0	2	50
Total					**0**	**0**	**14**	**70**	**105**	**0**	**0**	**7**	**175**

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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**
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	0	6	6	150
Semester 6	2	5	7	175

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Semester 7	0	7	7	175
Total	**2**	**18**	**20**	**500**