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1.	**OBJECTIVE**	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.			
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	15	
5.	**ELIGIBILITY**	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. B. Tech (Lateral entry to second year) : 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. 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. 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. 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. 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			

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		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.			
6.	**SELECTION PROCEDURE**	Merit list by valid score of Symbiosis Entrance Test (SET) or Joint Entrance Examination (JEE - Main) or Maharashtra Common Entrance Test (MHT-CET)			
7.	**MEDIUM OF INSTRUCTION**	English			
8.	**PROGRAMME PATTERN**	Semester			
9.	**COURSE & SPECIALIZATION**	Annexure A: Bachelor of Technology (Information Technology) 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 1. Artificial Intelligence and Machine Learning 2. Computing 3. Data Science 4. Game Design & Development 5. Security and Privacy 6. Internet of Things Annexure C: Optional 'Minor' specialization area 1. Smart Cities and Urban Analytics (CE) 2. Embedded Systems (E&TC) 3. Automobile Engineering with Hybrid and Autonomous Technology (ME)			
10.	**FEE**		**Academic Fee p.a**	**Institute Deposit**	**Total**
		Indian Students	260000	20000	280000
		International Students (USD equivalent to INR)	390000	20000	410000
11.	**ASSESSMENT**	All internal courses will have 100% component as internal evaluation at the institute level. All external courses will have 40% internal component and 60% component as external [University] examination. The internal and external will be separate heads of passing.			
12.	**STANDARD OF PASSING**	The assessment of the student for each examination is done, based on relative performance. Maximum Grade Point (GP) is 10 corresponding to O (Outstanding). For all courses, a student is required to pass both internal and external examination separately with a minimum Grade Point of 4 corresponding to Grade P. Students securing less than 40% absolute marks in each head of passing will be declared FAIL. The University awards a degree to the student who has achieved a minimum CGPA of 4 out of maximum of 10 CGPA for the programme.			
13.	**AWARD OF DEGREE/ DIPLOMA/ CERTIFICATE**	Bachelor of Technology (Information Technology) OR Bachelor of Technology (Information Technology) with Honours in Artificial			

		Intelligence and Machine Learning / Computing / Data Science / Game Design & Development / Security and Privacy /Internet of Things. OR Bachelor of Technology (Information Technology) with Minor in Smart Cities and Urban Analytics (CE)/ Embedded Systems (E&TC) / Automobile Engineering with Hybrid and Autonomous Technology (ME) will be awarded at the end of semester VIII examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10 CGPA

14. CLASSIFICATION OF CREDITS

Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	20	0	0	0	0	0	20
2	19	0	0	0	0	0	19
3	23	1	0	0	0	0	24
4	17	2	0	0	0	1*	19
5	22	3	0	0	0	1*	25
6	14	8	0	0	3	0	25
7	11	13	0	0	0	0	24
8	14	0	0	0	0	0	14
Total	**140**	**27**	**0**	**0**	**3**	**0**	**170**
Optional Additional Courses (Honours)							
Total	**0**	**0**	**20**	**0**	**0**	**0**	**20**
Optional Additional Courses (Minor)							
Total	**0**	**0**	**20/17**	**0/3**	**0**	**0**	**20**
						Grand Total	**190**

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

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

The revised programme structure supersedes the previously approved programme structure dated 22/08/2022 for the programme.

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

Head - Academics

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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 1									
Generic Core Courses									
TE7168	070124101	Engineering Mathematics -I		4	40	60	0	0	100
T7391	070124102	Physics		3	30	45	0	0	75
TE7288	070124103	Programming in C		3	30	45	0	0	75
T7383	070124104	Communication Skills		2	20	30	0	0	50
TE7188	070124105	Environmental Science		2	20	30	0	0	50
TE7300	070124106	Tinker Lab		2	0	0	50	0	50
T7392	070124107	Physics lab		1	0	0	10	15	25
TE7139	070124108	Communication Skills Lab		1	0	0	10	15	25
TE7289	070124109	Programming in C Lab		1	0	0	10	15	25
T6773	070124110	Creative Thinking		1	25	0	0	0	25
			Total	**20**	**165**	**210**	**80**	**45**	**500**
Semester : 2									
Generic Core Courses									
TE7169	070124201	Engineering Mathematics -II		4	40	60	0	0	100
T7540	070124202	Basic Electrical and Electronics Engineering		3	30	45	0	0	75
T7381	070124203	Chemistry		3	30	45	0	0	75
T7924	070124204	Engineering Graphics		2	0	0	20	30	50
TE7286	070124205	Programming and Problem Solving		2	20	30	0	0	50
T7593	070124206	Basic Electrical and Electronics Engineering Lab		1	0	0	10	15	25
T7382	070124207	Chemistry Lab		1	0	0	10	15	25
T6732	070124208	Critical Thinking		1	25	0	0	0	25
TE7287	070124209	Programming and Problem Solving Lab		1	0	0	10	15	25
TE7396	070124210	Software Tools		1	25	0	0	0	25
			Total	**19**	**170**	**180**	**50**	**75**	**475**
Semester : 3									
Generic Core Courses									
T7995	070124301	Discrete Mathematics and Probability Theory		4	40	60	0	0	100
T7906	070124302	Fundamentals of Data Structures		3	30	45	0	0	75
T7512	070124303	Programming Paradigms		3	30	45	0	0	75
T7996	070124304	Computer Organization		3	30	45	0	0	75
T7997	070124305	Digital Electronics and Logic Design		3	30	45	0	0	75
F7010	070124306	Agile Software Development		3	75	0	0	0	75

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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T7555	070124307	Digital Electronics and Logic Design Lab		1	0	0	10	15	25
T2646	070124308	Entrepreneurship Venture		1	25	0	0	0	25
T7513	070124309	Programming Paradigms Lab		1	0	0	10	15	25
TE7257	070124310	Fundamentals of Data Structures Lab		1	0	0	10	15	25
			Total	**23**	**260**	**240**	**30**	**45**	**575**
			Generic Elective Courses Group						
T6761	070124311	Foundation of Ethics		1	25	0	0	0	25
T6760	070124312	Introduction to Indian Philosophy		1	25	0	0	0	25
			Total Required Credits	**1**	**25**	**0**	**0**	**0**	**25**
			Semester : 4						
			Generic Core Courses						
F7021	070124401	Advanced Java		4	100	0	0	0	100
T7488	070124402	Data Structures		3	30	45	0	0	75
T7510	070124403	Operating Systems		3	30	45	0	0	75
TE7170	070124404	Engineering Mathematics-III		3	30	45	0	0	75
TE7290	070124405	Project Based Learning -I		2	0	0	20	30	50
T7489	070124406	Data Structures Lab		1	0	0	10	15	25
T7511	070124407	Operating Systems Lab		1	0	0	10	15	25
T4005	070124408	Integrated Disaster Management *		0	0	0	0	0	Non Letter Grade
			Total	**17**	**190**	**135**	**40**	**60**	**425**
			Generic Elective Courses Group						
T6012	070124409	Basic German I		2	50	0	0	0	50
T6014	070124410	Basic French I		2	50	0	0	0	50
T6016	070124411	Basic Spanish I		2	50	0	0	0	50
			Total Required Credits	**2**	**50**	**0**	**0**	**0**	**50**
			Semester : 5						
			Generic Core Courses						
T8000	070124501	Service Learning		4	100	0	0	0	100
TE7136	070124502	Deep Learning		4	100	0	0	0	100
T7908	070124503	Computer Networks		3	30	45	0	0	75
T7907	070124504	Database Management Systems		3	30	45	0	0	75
TE7299	070124505	Theory of Computation		3	30	45	0	0	75

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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
T7487	070124506	Data Base Management Systems Lab		2	0	0	20	30	50
T6774	070124507	Principles of Economics		2	50	0	0	0	50
T7482	070124508	Computer Networks Lab		1	0	0	10	15	25
TH4272	070124545	Certificate in COVID-19 Care for the Community *		0	0	0	0	0	Non Letter Grade
			Total	**22**	**340**	**135**	**30**	**45**	**550**
Generic Elective Courses Group									
T7574	070124509	MATLAB		3	30	45	0	0	75
TE7335	070124510	Introduction to Robotics		3	30	45	0	0	75
TE7339	070124511	Renewable Energy Systems		3	30	45	0	0	75
TE7332	070124512	Introduction to Image Processing		3	30	45	0	0	75
TE7223	070124513	Smart Urban Planning		3	30	45	0	0	75
TE7240	070124514	Water Resource Planning and Management		3	30	45	0	0	75
T7499	070124515	Java		3	30	45	0	0	75
TE7265	070124516	Introduction to Data Science		3	30	45	0	0	75
TE7263	070124517	Introduction to AI and Machine Learning		3	30	45	0	0	75
TE7388	070124518	Quality Management Techniques		3	30	45	0	0	75
TE7365	070124519	Electrical and Electronics Materials		3	30	45	0	0	75
TE7351	070124520	3D Printing and Prototyping		3	30	45	0	0	75
TE7387	070124521	Project Management		3	30	45	0	0	75
T7020	070124522	Nanotechnology		3	30	45	0	0	75
T7393	070124523	Computer Based Statistical Packages		3	30	45	0	0	75
			Total Required Credits	**3**	**30**	**45**	**0**	**0**	**75**
Semester : 6									
Generic Core Courses									
TE7008	070124601	Distributed Systems and Resource Management		3	30	45	0	0	75
TE7750	070124602	Web Application Development		3	75	0	0	0	75
T7674	070124603	Cyber Security		2	50	0	0	0	50
T6749	070124604	Design Thinking		2	50	0	0	0	50
TE7291	070124605	Project Based Learning-II		2	0	0	50	0	50
T7802	070124606	Capstone Course		2	0	0	20	30	50

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Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Total				**14**	**205**	**45**	**70**	**30**	**350**
Generic Elective Courses Group - I									
TE7255	070124607	Data Warehousing and Mining		3	30	45	0	0	75
TE7101	070124608	Internet of Things		3	30	45	0	0	75
TE7328	070124609	Image Processing		3	30	45	0	0	75
Total Required Credits				**3**	**30**	**45**	**0**	**0**	**75**
Generic Elective Courses Group - II									
TE7013	070124610	Data Warehousing and Mining Lab		1	0	0	10	15	25
T7528	070124611	Internet of Things Lab		1	0	0	10	15	25
TE7329	070124612	Image Processing Lab		1	0	0	10	15	25
Total Required Credits				**1**	**0**	**0**	**10**	**15**	**25**
Generic Elective Courses Group - III									
T7473	070124613	Artificial Intelligence		3	30	45	0	0	75
TE7259	070124614	Human Computer Interface		3	30	45	0	0	75
TE7243	070124615	Advanced Algorithms		3	30	45	0	0	75
Total Required Credits				**3**	**30**	**45**	**0**	**0**	**75**
Generic Elective Courses Group - IV									
TE7014	070124616	Artificial Intelligence Lab		1	0	0	10	15	25
TE7260	070124617	Human Computer Interface Lab		1	0	0	10	15	25
TE7244	070124618	Advanced Algorithms Lab		1	0	0	10	15	25
Total Required Credits				**1**	**0**	**0**	**10**	**15**	**25**
Open Elective Courses Group									
TE7338	070124619	Principles of Modern Communication Systems		3	30	45	0	0	75
T7584	070124620	Printed Circuit Board (PCB) Design		3	30	45	0	0	75
T7529	070124621	Machine Learning		3	30	45	0	0	75
TE7334	070124622	Introduction to Mechatronics		3	30	45	0	0	75
TE7195	070124623	GIS Applications		3	30	45	0	0	75
TE7203	070124624	Intelligent Transportation Management		3	30	45	0	0	75
TE7756	070124625	Open Source Technologies		3	30	45	0	0	75
T7474	070124626	Basics of Database		3	30	45	0	0	75
TE7264	070124627	Introduction to BIGDATA		3	30	45	0	0	75
T7650	070124628	Six sigma		3	30	45	0	0	75
TE7377	070124629	Introduction to Optimisation		3	30	45	0	0	75

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T7616	070124630	Fundamentals of Automotive Technology		3	30	45	0	0	75
TE7376	070124631	Introduction to Operations Research		3	30	45	0	0	75
TE7700	070124632	Smart Materials		3	30	45	0	0	75
TE7171	070124633	Introduction to Mathematical Modelling		3	30	45	0	0	75
		Total Required Credits		**3**	**30**	**45**	**0**	**0**	**75**
Semester : 7									
Generic Core Courses									
T7804	070124701	B.Tech Project		4	0	0	40	60	100
TE7294	070124702	Search Engine Optimization		4	40	60	0	0	100
F7044	070124703	Big Data, Hadoop & Apache Spark		3	75	0	0	0	75
		Total		**11**	**115**	**60**	**40**	**60**	**275**
Generic Elective Courses Group - I									
T2585	070124704	Organizational Behaviour		2	50	0	0	0	50
TE7438	070124705	History of Science and Technology		2	50	0	0	0	50
		Total Required Credits		**2**	**50**	**0**	**0**	**0**	**50**
Generic Elective Courses Group - II									
TE7097	070124706	Neural Network		3	30	45	0	0	75
TE7253	070124707	Data Science		3	30	45	0	0	75
TE7282	070124708	Optimization Techniques and Algorithms		3	30	45	0	0	75
		Total Required Credits		**3**	**30**	**45**	**0**	**0**	**75**
Generic Elective Courses Group - III									
TE7112	070124709	Neural Networks Lab		1	0	0	10	15	25
TE7254	070124710	Data Science Lab		1	0	0	10	15	25
TE7283	070124711	Optimization Techniques and Algorithms Lab		1	0	0	10	15	25
		Total Required Credits		**1**	**0**	**0**	**10**	**15**	**25**
Generic Elective Courses Group - IV									
T7529	070124712	Machine Learning		3	30	45	0	0	75
T7138	070124713	Network Security		3	30	45	0	0	75
TE7103	070124714	Natural Language Processing		3	30	45	0	0	75
		Total Required Credits		**3**	**30**	**45**	**0**	**0**	**75**
Generic Elective Courses Group - V									
TE7105	070124715	Machine Learning Lab		1	0	0	10	15	25
T7506	070124716	Network Security Lab		1	0	0	10	15	25

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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
TE7106	070124717	Natural Language Processing Lab		1	0	0	10	15	25
Total Required Credits				**1**	**0**	**0**	**10**	**15**	**25**
Generic Elective Courses Group - VI									
TE7251	070124718	Computer Graphics		3	30	45	0	0	75
TE7297	070124719	Software Testing Tools		3	30	45	0	0	75
TE7916	070124720	Cloud Computing Tools and Techniques		3	30	45	0	0	75
Total Required Credits				**3**	**30**	**45**	**0**	**0**	**75**
Semester : 8									
Generic Core Courses									
T7912	070124801	Internship		12	0	0	120	180	300
T7802	070124802	Seminar		2	0	0	50	0	50
Total				**14**	**0**	**0**	**170**	**180**	**350**
GIP									
G7002	070124803	Global Immersion Programme		2	0	50	0	0	50

Note: For students under Global Immersion Programme (070124803), course "Seminar" (070124802) will be waived off.

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Semester	Internal Credits	External Credits	Total Credits	Total Marks
Semester 1	3	17	20	500
Semester 2	2	17	19	475
Semester 3	5	19	24	600
Semester 4	6	13	19	475
Semester 5	10	15	25	625
Semester 6	9	16	25	625
Semester 7	5	19	24	600
Semester 8	2	12	14	350
Total	**42**	**128**	**170**	**4250**

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Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 5									
Artificial Intelligence and Machine Learning Specialization Core Courses									
TE7273	070124524	Machine Learning: Classification		3	30	45	0	0	75
TE7274	070124525	Machine Learning: Regression		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**
Semester : 5									
Computing Specialization Core Courses									
T7476	070124526	Cloud Computing		3	30	45	0	0	75
TE7250	070124527	Cloud Environment in Public Model		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**
Semester : 5									
Data Science Specialization Core Courses									
TE7281	070124528	Open Source Tools for Data Science		4	40	60	0	0	100
TE7292	070124529	R Programming		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**
Semester : 5									
Game Design and Development Specialization Core Courses									
TE7267	070124530	Introduction to Game Development		3	30	45	0	0	75
TE7285	070124531	Principles of Game Design		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**
Semester : 5									
Internet of Things Specialization Core Courses									
TE7268	070124532	Introduction to IOT		4	40	60	0	0	100
TE7293	070124533	Raspberry Pi and Python		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**
Semester : 5									
Security and Privacy Specialization Core Courses									
TE7296	070124534	Software Security		3	30	45	0	0	75
TE7301	070124535	Usable Security		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**

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Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 6									
Artificial Intelligence and Machine Learning Specialization Core Courses									
TE7266	070124634	Introduction to Deep Learning		4	40	60	0	0	100
TE7271	070124635	Machine Learning Clustering and Retrieval		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**
Semester : 6									
Computing Specialization Core Courses									
TE7246	070124636	Block Chain		4	40	60	0	0	100
TE7249	070124637	Cloud Computing Platforms		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**
Semester : 6									
Data Science Specialization Core Courses									
TE7247	070124638	Business Analytics		3	30	45	0	0	75
TE7284	070124639	Power BI		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**
Semester : 6									
Game Design and Development Specialization Core Courses									
TE7275	070124640	Modern Platforms in Game Development		4	40	60	0	0	100
TE7256	070124641	Enterpreneurship in Game Development		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**
Semester : 6									
Internet of Things Specialization Core Courses									
TE7269	070124642	IOT Security and Privacy		3	30	45	0	0	75
TE7295	070124643	Software Defined Networking		3	30	45	0	0	75
			Total	**6**	**60**	**90**	**0**	**0**	**150**
Semester : 6									
Security and Privacy Specialization Core Courses									
TE7252	070124644	Cryptography		4	40	60	0	0	100
TE7258	070124645	Hardware Security		3	30	45	0	0	75
			Total	**7**	**70**	**105**	**0**	**0**	**175**

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Annexure B
Optional 'Honours' Specialization

Catalog Course Code	Course Code	Course Title	Specialization	Credits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 7									
Artificial Intelligence and Machine Learning Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Computing Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Data Science Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Game Design and Development Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Internet of Things Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Security and Privacy Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**

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Annexure B
Optional 'Honours' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Artificial Intelligence and Machine Learning				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	**0**	**20**	**20**	**500**
Computing				
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**
Game Design and Development				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
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**

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Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Semester : 5									
Automobile Engineering with Hybrid and Autonomous Technology Specialization Core Courses									
TE7355	070124536	Basics of Automotive Engineering		3	30	45	0	0	75
T7928	070124537	Automotive Engineering Lab		1	0	0	10	15	25
T3276	070124538	Digital Electronics		2	50	0	0	0	50
			Total	**6**	**80**	**45**	**10**	**15**	**150**
Semester : 5									
Embedded Systems Specialization Core Courses									
TE7298	070124539	System Programming		4	40	60	0	0	100
T7801	070124540	Project Phase- I		1	0	0	10	15	25
T7802	070124541	Seminar		2	0	0	20	30	50
			Total	**7**	**40**	**60**	**30**	**45**	**175**
Semester : 5									
Smart Cities and Urban Analytics Specialization Core Courses									
TE7220	070124542	Smart Cities : Context Policy and Governance		3	30	45	0	0	75
TE7206	070124543	IOT for Smart Cities		3	30	45	0	0	75
TE7207	070124544	IOT for Smart Cities Lab		1	0	0	10	15	25
			Total	**7**	**60**	**90**	**10**	**15**	**175**
Semester : 6									
Automobile Engineering with Hybrid and Autonomous Technology Specialization Core Courses									
TE7669	070124646	Hybrid Technology		2	20	30	0	0	50
F7036	070124647	Autonomous Technology (Self Driven Cars)		2	50	0	0	0	50
TE7435	070124648	Automotive Engine and Transmission System		3	30	45	0	0	75
			Total	**7**	**100**	**75**	**0**	**0**	**175**
Semester : 6									
Embedded Systems Specialization Core Courses									
T7802	070124649	Specialization Project		2	0	0	20	30	50
TE7325	070124650	Embedded Linux		4	40	60	0	0	100
			Total	**6**	**40**	**60**	**20**	**30**	**150**
Semester : 6									

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Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Specialization	Cre-dits	Internal Marks	External Mark	Internal Practical Marks	External Practical Marks	Total Marks
Smart Cities and Urban Analytics Specialization Core Courses									
TE7177	070124652	Application of Sensor Technology to Smart Cities		3	30	45	0	0	75
T7802	070124649	Specialization Project		2	0	0	50	0	50
T7802	070124651	Specialization Seminar		2	0	0	50	0	50
			Total	**7**	**30**	**45**	**100**	**0**	**175**
Semester : 7									
Automobile Engineering with Hybrid and Autonomous Technology Specialization Core Courses									
T7805	070124721	Specialization Project		5	0	0	50	75	125
T7802	070124722	Specialization Seminar		2	0	0	20	30	50
			Total	**7**	**0**	**0**	**70**	**105**	**175**
Semester : 7									
Embedded Systems Specialization Core Courses									
T7802	070124723	Specialization Project		2	0	0	20	30	50
TE7304	070124724	Advanced Microcontrollers and RTOS		4	40	60	0	0	100
TE7305	070124725	Advanced Microcontrollers and RTOS Lab		1	0	0	10	15	25
			Total	**7**	**40**	**60**	**30**	**45**	**175**
Semester : 7									
Smart Cities and Urban Analytics Specialization Core Courses									
T7803	070124726	Specialization Project		3	0	0	30	45	75
			Total	**3**	**0**	**0**	**30**	**45**	**75**
Specialization Elective : Smart Cities and Urban Analytics									
TE7205	070124727	Intelligent Transportation Systems		3	30	45	0	0	75
TE7234	070124728	Urban Hydrology and Hydraulics		3	30	45	0	0	75
			Total Required Credits	**3**	**30**	**45**	**0**	**0**	**75**

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Optional 'Minor' Specialization

Semester	Internal Credits	External Credits	Total Credits	Total Marks
Automobile Engineering with Hybrid and Autonomous Technology				
Semester 5	2	4	6	150
Semester 6	2	5	7	175
Semester 7	0	7	7	175
Total	**4**	**16**	**20**	**500**
Embedded Systems				
Semester 5	0	7	7	175
Semester 6	0	6	6	150
Semester 7	0	7	7	175
Total	**0**	**20**	**20**	**500**
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**