Symbiosis Institute of Technology, Pune
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<table>
<tr><td>1.</td><td>OBJECTIVE</td><td colspan="4">To generate competent manpower in the emerging areas of AI and Machine Learning. To inculcate among the students an aptitude for engineering and research in the area of AI and ML for generation of better and smarter solutions to real world problems.</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="2">4.</td><td rowspan="2">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"></td><td rowspan="2"></td><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>15</td></tr>
<tr><td>5.</td><td>ELIGIBILITY</td><td colspan="4">Passed Standard XII (10+2) or equivalent examination with Physics and Mathematics as compulsory subjects along with one of the Chemistry/ Biotechnology/ Biology/ Technical Vocational subject/ Computer Science/ Information Technology/ Informatics Practices/ Agriculture/ Engineering Graphics/ Business Studies from any recognised Board with a minimum of 45% marks or equivalent grade (40% marks or equivalent grade for Scheduled Caste/ Scheduled Tribes).</td></tr>
<tr><td>6.</td><td>SELECTION PROCEDURE</td><td colspan="4">Selection would be based on joint merit of entrance exam score and PCM/PMV aggregate percentage.</td></tr>
<tr><td>7.</td><td>MEDIUM OF INSTRUCTION</td><td colspan="4">English</td></tr>
<tr><td>8.</td><td>PROGRAMME PATTERN</td><td colspan="4">Semester</td></tr>
<tr><td>9.</td><td>COURSE &</td><td colspan="4">Annexure A: Bachelor of Technology (Artificial Intelligence and Machine Learning)</td></tr>
</table>

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	SPECIALIZATION	Students may pursue optional 'Minor' specialization in one of the specialization areas by completing additional 20 credits in Semester: 5, 6 and 7 as specified in Annexure C for Minor in the respective specialization area. Annexure C: Optional 'Minor' specialization area 1. Security and Privacy (CSE) 2. Computing (CSE) 3. Aerial Drone Technology (RA)			
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 (Artificial Intelligence and Machine Learning) OR Bachelor of Technology (Artificial Intelligence and Machine Learning) with Minor in Security and Privacy / Computing / Aerial Drone Technology will be awarded at the end of semester VIII examination by taking into consideration the performance of all semester examinations after obtaining minimum 4.00 CGPA out of 10.00 CGPA.			

14. CLASSIFICATION OF CREDITS

Semester	Generic Core	Generic Elective	Specialization Core	Specialization Elective	Open Elective	Audit	Total
1	19	0	0	0	0	1*	19
2	21	0	0	0	0	1*	21
3	19	1	0	0	0	0	20
4	23	2	0	0	0	1*	25
5	23	0	0	0	3	0	26
6	10	10	0	0	3	0	23
7	12	10	0	0	0	0	22
8	14	0	0	0	0	0	14
Total	**141**	**23**	**0**	**0**	**6**	**0**	**170**
Optional Additional Courses (Minor)							
Total	**0**	**0**	**20**	**0**	**0**	**0**	**20**
						Grand Total	**190**

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

The revised programme structure supersedes the previously approved programme structure dated 30/03/2024 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

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Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Semester : 1													
Generic Core Courses													
TE7543	0701260101	Calculus	BS		2	1	0	0	0	30	45	3	75
TE7540	0701260102	Physics	BS		2	0	0	0	0	20	30	2	50
T7392	0701260103	Physics lab	BS		0	0	2	10	15	0	0	1	25
TE7288	0701260104	Programming in C	ES		3	0	0	0	0	30	45	3	75
TE7289	0701260105	Programming in C Lab	ES		0	0	2	10	15	0	0	1	25
T7383	0701260106	Communication Skills	HS		2	0	0	0	0	20	30	2	50
T7384	0701260107	Communication skills lab	HS		0	0	2	10	15	0	0	1	25
TE7188	0701260108	Environmental Science	ES		2	0	0	0	0	20	30	2	50
T6773	0701260109	Creative Thinking	HS		1	0	0	0	0	25	0	1	25
T7674	0701260110	Cyber Security	PC		2	0	0	0	0	50	0	2	50
T2646	0701260111	Entrepreneurship Venture	HS		1	0	0	0	0	25	0	1	25
TH4272	0701260112	Certificate in COVID-19 Care for the Community *			0	0	0	0	0	0	0	Non - Letter Grade	0
				Total	**15**	**1**	**6**	**30**	**45**	**220**	**180**	**19**	**475**
Semester : 2													
Generic Core Courses													

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7541	0701260201	Linear Algebra	BS		2	1	0	0	0	30	45	3	75
TE7545	0701260202	Chemistry	BS		2	0	0	0	0	20	30	2	50
T7382	0701260203	Chemistry Lab	BS		0	0	2	10	15	0	0	1	25
T7540	0701260204	Basic Electrical and Electronics Engineering	ES		3	0	0	0	0	30	45	3	75
T7593	0701260205	Basic Electrical and Electronics Engineering Lab	ES		0	0	2	10	15	0	0	1	25
TE7556	0701260206	Introduction to Python Programming	ES		3	0	0	0	0	30	45	3	75
TE7555	0701260207	Introduction to Python Programming Lab	ES		0	0	2	10	15	0	0	1	25
T6732	0701260208	Critical Thinking	HS		1	0	0	0	0	25	0	1	25
TE7538	0701260209	Statistics for Data Science	BS		2	1	0	0	0	30	45	3	75
TE7396	0701260210	Software Tools	BS		0	0	2	25	0	0	0	1	25
TE7300	0701260211	Tinker Lab	ES		0	0	4	50	0	0	0	2	50
TH4095	0701260212	Fitness for Life *			0	0	0	0	0	0	0	Non - Letter Grade	0
				Total	**13**	**2**	**12**	**105**	**45**	**165**	**210**	**21**	**525**
Semester : 3													
Generic Core Courses													
TE7542	0701260301	Discrete Mathematics	BS		2	1	0	0	0	30	45	3	75
TE7759	0701260302	Python for Data Science	PC		0	0	2	10	15	0	0	1	25

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7544	0701260303	Data Structures and Algorithms	PC		3	0	0	0	0	30	45	3	75
TE7546	0701260304	Data Structures and Algorithms Lab	PC		0	0	4	20	30	0	0	2	50
TE7547	0701260305	Data Preprocessing Lab	PC		0	0	4	20	30	0	0	2	50
TE7755	0701260306	Exploratory Data Analysis Lab	ES		0	0	4	20	30	0	0	2	50
TE7752	0701260307	Database Concepts for Data Science Lab	ES		0	0	2	10	15	0	0	1	25
T6749	0701260308	Design Thinking	HS		2	0	0	0	0	50	0	2	50
F7043	0701260309	Software Engineering for AI systems	PC		3	0	0	0	0	75	0	3	75
				Total	**10**	**1**	**16**	**80**	**120**	**185**	**90**	**19**	**475**
Generic Elective Courses Group													
T6872	0701260310	Foundation of Ethics	GE		1	0	0	0	0	25	0	1	25
T6760	0701260311	Introduction to Indian Philosophy	GE		1	0	0	0	0	25	0	1	25
				Total Required Credits				**0**	**0**	**25**	**0**	**1**	**25**
Semester : 4													
Generic Core Courses													
T6774	0701260401	Principles of Economics	HS		2	0	0	0	0	50	0	2	50
F7055	0701260402	Programming with Java	PC		3	0	0	0	0	75	0	3	75
F7056	0701260403	Programming with Java Lab	PC		0	0	2	25	0	0	0	1	25
TE7499	0701260404	Supervised Machine Learning	PC		4	0	0	0	0	40	60	4	100
TE7500	0701260405	Supervised Machine Learning Lab	PC		0	0	4	20	30	0	0	2	50

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7760	0701260406	Unsupervised Learning	PC		3	0	0	0	0	30	45	3	75
TE7761	0701260407	Unsupervised Learning Lab	PC		0	0	2	10	15	0	0	1	25
TE7529	0701260408	AI Ethics	PC		2	0	0	0	0	20	30	2	50
TE7757	0701260409	Optimization Techniques for Machine Learning	PC		2	0	0	0	0	20	30	2	50
TE7699	0701260410	Probability and Random Processes	BS		2	1	0	0	0	30	45	3	75
T4005	0701260411	Integrated Disaster Management *			0	0	0	0	0	0	0	Non - Letter Grade	0
				Total	**18**	**1**	**8**	**55**	**45**	**265**	**210**	**23**	**575**
Generic Elective Courses Group													
T6184	0701260412	Basic German I	GE		2	0	0	0	0	50	0	2	50
T6186	0701260413	Basic French I	GE		2	0	0	0	0	50	0	2	50
T6188	0701260414	Basic Spanish I	GE		2	0	0	0	0	50	0	2	50
				Total Required Credits				**0**	**0**	**50**	**0**	**2**	**50**
GIP													
G7002	0701260415	Global Immersion Programme			0	0	0	0	0	0	50	2	50

Note: For students under Global Immersion Programme (0701260415), course "Principles of Economics" (0701260401) will be waived off.

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Semester : 5													
Generic Core Courses													
T8000	0701260501	Service Learning	HS		0	0	8	100	0	0	0	4	100
F7053	0701260502	Web and Mobile Application Development	PC		3	0	0	0	0	75	0	3	75
TE7753	0701260503	Deep Learning	PC		3	0	0	0	0	30	45	3	75
TE7754	0701260504	Deep Learning Lab	PC		0	0	2	10	15	0	0	1	25
TE7908	0701260505	Natural Language Processing and Applications	PC		3	0	0	0	0	30	45	3	75
TE7909	0701260506	Natural Language Processing and Applications Lab	PC		0	0	2	10	15	0	0	1	25
TE7663	0701260507	Data Visualization Lab	PC		0	0	4	20	30	0	0	2	50
TE7483	0701260508	Applications and use cases of Machine Learning	PC		0	0	4	20	30	0	0	2	50
T7908	0701260509	Computer Networks	PC		3	0	0	0	0	30	45	3	75
T7482	0701260510	Computer Networks Lab	PC		0	0	2	10	15	0	0	1	25
				Total	**12**	**0**	**22**	**170**	**105**	**165**	**135**	**23**	**575**
Open Elective Courses Group													
T7393	0701260511	Computer Based Statistical Packages	OE	Applied Science	3	0	0	0	0	30	45	3	75
T7499	0701260512	Java	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TEE7018	0701260513	Engineering Simulation and Modeling Tools	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7698	0701260514	Nanotechnology	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7387	0701260515	Project Management	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7223	0701260516	Smart Urban Planning	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7240	0701260517	Water Resource Planning and Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7263	0701260518	Introduction to AI and Machine Learning	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7265	0701260519	Introduction to Data Science	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7428	0701260520	Introduction to Image Processing	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7335	0701260521	Introduction to Robotics	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7339	0701260522	Renewable Energy Systems	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7351	0701260523	3D Printing and Prototyping	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7365	0701260524	Electrical and Electronics Materials	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7388	0701260525	Quality Management Techniques	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Total Required Credits								**0**	**0**	**30**	**45**	**3**	**75**
Semester : 6													
Generic Core Courses													
TE7490	0701260601	Generative Adversarial Networks	PC		3	0	0	0	0	30	45	3	75
TE7491	0701260602	Generative Adversarial Networks Lab	PC		0	0	2	10	15	0	0	1	25
TE7565	0701260603	Reinforcement Learning	PC		3	0	0	0	0	30	45	3	75
TE7496	0701260604	Reinforcement Learning Lab	PC		0	0	2	10	15	0	0	1	25
T7802	0701260605	Capstone Course	PC		2	0	0	0	0	50	0	2	50
Total					**8**	**0**	**4**	**20**	**30**	**110**	**90**	**10**	**250**
Generic Elective Courses Group- I													
TE7484	0701260606	Computer Vision	PE		3	0	0	0	0	30	45	3	75
TE7261	0701260607	Internet of Things	PE		3	0	0	0	0	30	45	3	75
TE7255	0701260608	Data Warehousing and Mining	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								**0**	**0**	**30**	**45**	**3**	**75**
Generic Elective Courses Group- II													
TE7485	0701260609	Computer Vision Lab	PE		0	0	2	10	15	0	0	1	25
TE7262	0701260610	Internet of Things Lab	PE		0	0	2	10	15	0	0	1	25
TE7013	0701260611	Data Warehousing and Mining Lab	PE		0	0	2	10	15	0	0	1	25

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Total Required Credits								**10**	**15**	**0**	**0**	**1**	**25**
Generic Elective Courses Group- III													
TE7562	0701260612	Speech Systems	PE		3	0	0	0	0	30	45	3	75
TE7943	0701260613	Full Stack Development	PE		3	0	0	0	0	30	45	3	75
TE7536	0701260614	Embedded AI	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								**0**	**0**	**30**	**45**	**3**	**75**
Generic Elective Courses Group- IV													
TE7563	0701260615	Speech Systems Lab	PE		0	0	2	10	15	0	0	1	25
TE7942	0701260616	Full Stack Development Lab	PE		0	0	2	10	15	0	0	1	25
TE7535	0701260617	Embedded AI Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**0**	**0**	**1**	**25**
Generic Elective Courses Group- V													
T2585	0701260618	Organizational Behaviour	GE		2	0	0	0	0	50	0	2	50
TE7438	0701260619	History of Science and Technology	GE		2	0	0	0	0	50	0	2	50
Total Required Credits								**0**	**0**	**50**	**0**	**2**	**50**
Open Elective Courses Group													
T7474	0701260620	Basics of Database	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
T7616	0701260621	Fundamentals of Automotive Technology	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
T7529	0701260622	Machine Learning	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7756	0701260623	Open Source Technologies	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
T7584	0701260624	Printed Circuit Board (PCB) Design	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
T7650	0701260625	Six sigma	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
TE7700	0701260626	Smart Materials	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7195	0701260627	GIS Applications	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7264	0701260628	Introduction to BIGDATA	OE	Computer Science and Engineering	3	0	0	0	0	30	45	3	75
TE7171	0701260629	Introduction to Mathematical Modelling	OE	Applied Science	3	0	0	0	0	30	45	3	75
TE7203	0701260630	Intelligent Transportation Management	OE	Civil Engineering	3	0	0	0	0	30	45	3	75
TE7334	0701260631	Introduction to Mechatronics	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7338	0701260632	Principles of Modern Communication Systems	OE	Electronics & Tele-communication Engineering	3	0	0	0	0	30	45	3	75
TE7376	0701260633	Introduction to Operations Research	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7377	0701260634	Introduction to Optimisation	OE	Mechanical Engineering	3	0	0	0	0	30	45	3	75
Total Required Credits					**0**	**0**		**30**		**45**		**3**	**75**
GIP													
G7021	0701260635	Global Immersion Programme			0	0	0	0	0	0	525	21	525
Note: For students under Global Immersion Programme (0701260635), courses "Generative Adversarial Networks" (0701260601),"Generative Adversarial Networks Lab" (0701260602),"Reinforcement Learning" (0701260603),"Reinforcement Learning Lab" (0701260604),"Capstone Course" (0701260605),"Computer Vision" (0701260606),"Computer Vision Lab" (0701260609),"Full Stack Development" (0701260613),"Full Stack Development Lab" (0701260616),"Introduction to BIGDATA" (0701260628) will be waived off.													
Semester : 7													
Generic Core Courses													
T7804	0701260701	B.Tech Project	PIS		0	0	8	40	60	0	0	4	100
TE7493	0701260702	Multimodal AI	PC		3	0	0	0	0	30	45	3	75
TE7494	0701260703	Multimodal AI Lab	PC		0	0	2	10	15	0	0	1	25
TE7552	0701260704	Big Data Analytics	PC		3	0	0	0	0	30	45	3	75
TE7554	0701260705	Big Data Analytics Lab	PC		0	0	2	10	15	0	0	1	25
Total					**6**	**0**	**12**	**60**	**90**	**60**	**90**	**12**	**300**
Generic Elective Courses Group- I													
TE7534	0701260706	Healthcare informatics	PE		3	0	0	0	0	30	45	3	75

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								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7548	0701260707	Cognitive Systems	PE		3	0	0	0	0	30	45	3	75
TE7551	0701260708	Block chain Technologies	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								**0**	**0**	**50**	**0**	**3**	**50**
Generic Elective Courses Group- II													
TE7564	0701260709	AI in Wireless Communications	PE		3	0	0	0	0	30	45	3	75
TE7497	0701260710	Responsible AI	PE		3	0	0	0	0	30	45	3	75
TE7941	0701260711	MLOps	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								**0**	**0**	**30**	**45**	**3**	**75**
Generic Elective Courses Group- III													
TE7561	0701260712	AI in Wireless Communications Lab	PE		0	0	2	10	15	0	0	1	25
TE7498	0701260713	Responsible AI Lab	PE		0	0	2	10	15	0	0	1	25
TE7940	0701260714	MLOps Lab	PE		0	0	2	10	15	0	0	1	25
Total Required Credits								**10**	**15**	**0**	**0**	**1**	**25**
Generic Elective Courses Group- IV													
TE7560	0701260715	Robotic Process Automation	PE		3	0	0	0	0	30	45	3	75
TE7532	0701260716	Smart Society	PE		3	0	0	0	0	30	45	3	75
TE7533	0701260717	AI for Banking and Finance	PE		3	0	0	0	0	30	45	3	75
Total Required Credits								**0**	**0**	**30**	**45**	**3**	**75**

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Annexure A

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Semester : 8													
Generic Core Courses													
T7912	0701260801	Internship	PIS		0	0	24	120	180	0	0	12	300
T7802	0701260802	Seminar	PIS		0	0	4	20	30	0	0	2	50
				Total	**0**	**0**	**28**	**140**	**210**	**0**	**0**	**14**	**350**

Abbreviations (Nature)

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

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Semester	Continuous Assessment	Term End Examination	Total Credits	Total Marks
Semester 1	4	15	19	475
Semester 2	4	17	21	525
Semester 3	6	14	20	500
Semester 4	8	17	25	625
Semester 5	7	19	26	650
Semester 6	4	19	23	575
Semester 7	0	22	22	550
Semester 8	0	14	14	350
Total	**33**	**137**	**170**	**4250**

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Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Semester : 5													
Computing Specialization Core Courses													
TE7248	0701260526	Cloud Computing	PC		3	0	0	0	0	30	45	3	75
TE7250	0701260527	Cloud Environment in Public Model	PC		3	0	0	0	0	30	45	3	75
		Total			**6**	**0**	**0**	**0**	**0**	**60**	**90**	**6**	**150**
Semester : 5													
Security and Privacy Specialization Core Courses													
TE7296	0701260528	Software Security	PC		3	0	0	0	0	30	45	3	75
TE7301	0701260529	Usable Security	PC		3	0	0	0	0	30	45	3	75
		Total			**6**	**0**	**0**	**0**	**0**	**60**	**90**	**6**	**150**
Semester : 5													
Aerial Robotics and Drone Technology Specialization Core Courses													
TE7850	0701260530	Introduction to Aerial Robotics and Drones	PC		3	0	0	0	0	30	45	3	75
TE7864	0701260531	Motion Planning and Control	PC		2	0	0	0	0	20	30	2	50
TE7865	0701260532	Motion Planning and Control lab	PC		0	0	2	10	15	0	0	1	25

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Annexure C
Optional 'Minor' Specialization

Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
Total					**5**	**0**	**2**	**10**	**15**	**50**	**75**	**6**	**150**
Semester : 6													
Computing Specialization Core Courses													
TE7246	0701260636	Block Chain	PC		4	0	0	0	0	40	60	4	100
TE7249	0701260637	Cloud Computing Platforms	PC		3	0	0	0	0	30	45	3	75
Total					**7**	**0**	**0**	**0**	**0**	**70**	**105**	**7**	**175**
Semester : 6													
Security and Privacy Specialization Core Courses													
TE7252	0701260638	Cryptography	PC		4	0	0	0	0	40	60	4	100
TE7258	0701260639	Hardware Security	PC		3	0	0	0	0	30	45	3	75
Total					**7**	**0**	**0**	**0**	**0**	**70**	**105**	**7**	**175**
Semester : 6													
Aerial Robotics and Drone Technology Specialization Core Courses													
TE7884	0701260640	Robotics Mobility and Perception	PC		3	0	0	0	0	30	45	3	75
TE7883	0701260641	Robotics Estimation and Learning	PC		2	0	0	0	0	20	30	2	50

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Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
TE7866	0701260642	Navigation and Communication Lab	PC		0	0	4	20	30	0	0	2	50
				Total	**5**	**0**	**4**	**20**	**30**	**50**	**75**	**7**	**175**
Semester : 7													
Computing Specialization Core Courses													
T7805	0701260718	Specialization Project	PC		0	0	10	50	75	0	0	5	125
T7802	0701260719	Specialization Seminar	PIS		0	0	4	20	30	0	0	2	50
				Total	**0**	**0**	**14**	**70**	**105**	**0**	**0**	**7**	**175**
Semester : 7													
Security and Privacy Specialization Core Courses													
T7805	0701260718	Specialization Project	PIS		0	0	10	50	75	0	0	5	125
T7802	0701260719	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 Specialization Core Courses													
T7805	0701260718	Specialization Project	PIS		0	0	10	50	75	0	0	5	125

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Catalog Course Code	Course Code	Course Title	Nature	Specialization/ Area/ Department	Teaching Scheme (Hours Per Week)			Examination Scheme (Marks)				Total Credits	Total
								Practical		Theory			
					L	T	Lab	CA	ESE	CA	ESE		
T7802	0701260719	Specialization Seminar	PIS		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
Computing				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	**0**	**20**	**20**	**500**
Security and Privacy				
Semester 5	0	6	6	150
Semester 6	0	7	7	175
Semester 7	0	7	7	175
Total	**0**	**20**	**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**