Annexure 1

Faculty of Engineering, School of Computer Science & Engineering
Department of Computer Science & Engineering

Degree: B. Tech. CSE

Total Credit: 160

	Third Semester						**Fourth Semester**				
Code	**Subject Name**	**L**	**T**	**P**	**C**	**Code**	**Subject Name**	**L**	**T**	**P**	**C**
MAS21XX/ MEE22XX[i]	Statistics & Probability/ Engineering Economics	3	0	0	3	**MAS21XX / MEE22XX**	Statistics & Probability/ Engineering Economics	3	0	0	3
MBB21XX	Management of Technology	3	0	0	3	**CSE2201**	Design and Analysis of Algorithms	3	1	0	4
CSE2101	Data Structures and Algorithms	3	1	0	4	**CSE2202**	Operating Systems	3	1	0	4
CSE2102	Relational Database Management System	3	1	0	4	**CSE2221/CSE 2222**	Cryptography/ High Performance Computing	3	1	0	4
CSE2103	Computer Organization & Architecture	3	1	0	4	**CSE22XX**	Program Elective 1	3	0	0	3
CSE2121/CSE2122	Object Oriented Programming using Java/ Object Oriented Programming using Python	3	1	0	4	**CSE00XX**	Open Elective 1	3	0	0	3
CSE2131	Data Structures and Algorithms Lab	0	0	2	1	**CSE2231**	Design and Analysis of Algorithms Lab	0	0	2	1
CSE2132	Relational Database Management System Lab	0	0	2	1	**CSE2232**	Operating Systems Lab	0	0	2	1
CSE2170	Project-based Learning 1	0	0	2	1	**CSE2270**	Project-based Learning 2	0	0	2	1
		18	4	6	25			18	3	6	24
	Total Contact Hours (L+T+P)	**28**					**Total Contact Hours (L+T+P)**	**27**			
	Fifth Semester						**Sixth Semester**				
Code	**Subject Name**	**L**	**T**	**P**	**C**	**Code**	**Subject Name**	**L**	**T**	**P**	**C**
CSE3101	Computer Networks	3	1	0	4	**CSE3201**	Machine Learning	3	1	0	4
CSE3102	Software Engineering	3	1	0	4	**CSE32XX**	Program Elective 4	3	0	0	3
CSE3121/CSE3122	Artificial Intelligence & Soft Computing / Visual Computing	3	1	0	4	**CSE32XX**	Program Elective 5	3	0	0	3
CSE31XX	Program Elective 2	3	0	0	3	**CSE32XX**	Program Elective 6	3	0	0	3
CSE31XX	Program Elective 3	3	0	0	3	**CSE00XX**	Open Elective 3	3	0	0	3
CSE00XX	Open Elective 2	3	0	0	3	**CSE3230**	Professional Practice	0	0	2	1
CSE3131	Computer Networks Lab	0	0	2	1	**CSE3231**	Machine Learning Lab	0	0	2	1
CSE3132	Software Engineering Lab	0	0	2	1	**CSE3232**	Emerging Tools & Technology	0	0	2	1
CSE3170	Project-based Learning 3	0	0	2	1	**CSE3270**	Project-based Learning 4	0	0	6	3
		18	3	6	24			15	1	12	22
	Total Contact Hours (L+T+P)	**27**					**Total Contact Hours (L+T+P)**	**28**			

Annexure 1

Faculty of Engineering, School of Computer Science & Engineering
Department of Computer Science & Engineering

Degree: B. Tech. CSE Total Credit: 160

	Seventh Semester						**Eighth Semester**				
Code	**Subject Name**	**L**	**T**	**P**	**C**	**Code**	**Subject Name**	**L**	**T**	**P**	**C**
CSE41XX	Program Elective 7	3	0	0	3	**CSE4271**	Major Project	0	0	24	12
CSE41XX	Program Elective 8	3	0	0	3						
CSE00XX	Open Elective 4	3	0	0	3						
CSE00XX	Open Elective 5	3	0	0	3						
CSE4171	Internship (Industry or Research)	0	0	2	1						
		12	0	2	13						12
	Total Contact Hours (L+T+P)	**14**					**Total Contact Hours (L+T+P)**	**24**			

Annexure 1

Faculty of Engineering, School of Computer Science & Engineering
Department of Computer Science & Engineering

Degree: B. Tech. CSE Total Credit: 160

Flexi Core		
Flexi Core 1 (III Sem)	**Flexi Core 2 (IV Sem)**	**Flexi Core 3 (V Sem)**
CSE2121: Object Oriented Programming using Java. **CSE2122:** Object Oriented Programming using Python	**CSE2221:** Cryptography **CSE2222:** High Performance Computing	**CSE3121:** Artificial Intelligence & Soft Computing **CSE3122:** Visual Computing

Program Electives			
IV	**V**	**VI**	**VII**
Example - PE1 • **CSE2240:** Automata and Compiler Design • **CSE2241:** Data Visualization Techniques	**Example - PE2** • **CSE3140:** Cloud Infrastructures & Virtualization • **CSE3141:** Predictive Analytics **Example - PE3** • **CSE3142:** Android App Development • **CSE3143:** Advanced Java • **CSE3144:** Advanced Data Structures • **CSE3145:** Game Theory • **CSE3146:** Software Testing & Automation	**Example - PE 4** • **CSE3240:** Cloud Applications • **CSE3241:** Computer Vision • **CSE3242:** Web Framework • **CSE3243**: Ethical Hacking **Example - PE5** • **CSE3244**: Secure Programming • **CSE3245:** Cloud Security and Privacy • **CSE3246:** Natural Language Processing • **CSE3247:** Agile Methodology • **CSE3248:** Explainable AI **Example - PE6** • **CSE3249:** Digital Forensics and Cyber Crimes • **CSE3250:** Fog and Edge Computing • **CSE3251:** Deep Learning • **CSE3252:** UI/UX Design • **CSE3253:** DevOps	**Example - PE 7** • **CSE4140:** Blockchain Technologies • **CSE4141:** Cloud Automation Tools • **CSE4142:** Social Network Analysis • **CSE4143:** Recommender Systems **Example - PE8** • **CSE4144:** Information Retrieval • **CSE4145:** Virtual & Augmented Reality • **CSE4146:** Quantum Computing • **CSE4147:** Cognitive Computing • **CSE4148:** Reinforcement Learning

Annexure 1

Faculty of Engineering, School of Computer Science & Engineering
Department of Computer Science & Engineering

Degree: B. Tech. CSE Total Credit: 160

Open Electives	
Graded OE	**Non-Graded OE**
	OE1 CSE0051: Data Structures **OE2 CSE0052**: Python Programming **OE3 CSE0053**: Fundamental of Cyber Security **OE4 CSE0054**: Digital Forensics and Cyber Crimes **OE5 CSE0055**: Cyber Physical System **OE6 CSE0056**: Ethical Hacking & Penetration Testing **OE7 CSE0057**: Robotics Process Automation **OE8 CSE0058**: Introduction to R Programming **OE9 CSE0059**: Analytics Insights (PWC)

B. Tech. with Minor Specialization CSE

For B. Tech. with a Minor, a student needs to earn an additional 18 credits (over and above the required 160 credits for B. Tech. degree). The list of courses of each Minor program, their respective credits weightage, and semester-wise breakup of the courses are listed along with the Minor specialization table.

The weekly instruction hours, internal and external evaluation, and award of grades are on par with the regular 4-Years B. Tech. program.

S. No	**Offering Department**	**Minor Program**	**Eligible Branch of students**	**Award of Degree**
1	CSE	Computer Science	Biotechnology, Mechanical, Mechatronics, Automobile, Civil, Chemical, EEE	B. Tech. in branch name with Minor in CSE
Total Credits				18