DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING TEZPUR UNIVERSITY

Tentative Offered Courses - Autumn 2025

01th July 2025

The following are the courses being offered by the Department of Computer Science & Engineering, in the Autumn Semester, 2025 for Ph.D., M. Tech (CSE), M. Tech (Data Sciences) MCA and B. Tech. programmes. In addition, the students shall have to take Open Elective courses and SWAYAM MOOCs courses as applicable. Number of MOOCs course taken by each student should not exceed two.

	MCA 1 st Sen	este	er				
		Credit			T _		
Course	Course Title	Structure		Credit	Course	Course	
Code		L	Т	Р		Type	Instructor
CSMC401	Selected Topics in Computing	4	0	0	0	Audit	
CSIVIC401	(*For non-CS background)	4	U	U	U	Audit	
CSMC402	Discrete Mathematics	2	1	0	3	Core	SP
CSMC403	Computer Organization and Architecture	3	1	1	5	Core	SKR
CSMC404	Data Structures	3	1	0	4	Core	SIS
CSMC405	OO Programming and Data Structures Lab	0	1	2	3	Core	LBS
	Elective-I	3	0	0	3	E	
	Elective-II	3	0	0	3	Е	
			Tota	ıl	21		
	Choose the Electives from the following group	os (Oı	nly o	ne ele	ctive from o	ne group)	
	Elective-	·l					
CSMC441	Graph Theory	3	0	0	3	Е	SS
	Elective-	II					1
CSMC444	Computer Graphics	3	0	1	4	Е	RS
CSMC443	Formal Language and Automata	3	0	0	3	Е	JT
	MCA 3 rd Sen	neste	er				
EF103	Communicative English	2	0	1	3	Non- credit)	
CS513	Software Engineering	3	0	0	3	Core	
CS518	Software Engineering Lab	0	0	1	1	Core	
CS519	Computer Networks	3	1	0	4	Core	
CS520	Computer Networks Lab	0	0	1	1	Core	
CS510	Minor Project				5	Core	
	Elective-5				3/4	Е	
	Open Elective-2				3	OE	
			Tota	il	20		
	Choose Elective-5 either from Group Open Elective-2 can be taken from						1
	Elective-5: G						
CO504	Natural Language Processing	3	0	0	3	E	
		1	1	1	1		I

CO519	Internet of Things	3	0	1	4	Е	
	Elective-5: Gr	roup-l	ı				
CO513	Fundamentals of Speech Processing	3	0	1	4	Е	
CS602	Image Processing	3	0	0	3	Е	
CCC30	Software Defined Networking & Network		0	_	2	L	
CS638	Function Virtualization	3	0	0	3	E	
	M. Tech. (Data Science	es) 1 ^s	^t Sen	nest	er		
CSMT530	Mathematical Foundations of Data	4	0	0	4	Core	
CSIVITSSO	Science			Ů		Core	
CSMT531	Advanced Algorithms & Data Structures	3	1	0	4	Core	
CSMT505	Research Methodology	2	0	0	2	Core	
CSMT532	Intellectual Property Rights (IPR)	2	0	0	2	Core	
CSMT533	Data Structures and Algorithms Lab	0	0	2	2	Core	
CT465	Essence of Traditional Indian Knowledge	1	0	0	1	Audit	
	J .					Course	
	Program Elective I				4	E -	
	Program Elective II				4	E	
			Total		22		
	Program Elective I -Choose Elect	tive fr	om t	he fo	llowing lis	t.	
CSMT534	Data Science	3	0	1	4	E	
	Program Elective II -Choose Elect	ive fr	om t	the f	ollowing	1	1
CSMT537	Recommender System	3	0	1	4	E	
	M. Tech. (Data Science	es) 3 ^r	^d Ser	nest	er		
CS630	Term Project I	0	0	14	14	Core	
CSXXX	Program Elective V				3/4	Е	
XXXXX	Open Elective	3	0	0	3	OE	
CTACE		4			1	Audit	Missed In
CT465	Essence of Traditional Indian Knowledge	1	0	0	1	Course	1 st Sem
			Total		14		
F	Program Elective V -Choose Elective from	m the	foll	owin	g list or N	/IOOCs List	•
CS636	Computer Vision	3	0	1	4	E	
CS633	Data Analytics for IoT	3	0	1	4	E	
	M. Tech. (CSE) 1 ^s	^t Sem	este	er			
CSMT500	Mathematical Foundation for Computer	4	0	0	4	Core	
CONTINU	Science		U	J	7	COTE	
CSMT501	Advanced Algorithms and	4	0	0	4	Core	
	Data Structures		_	_			
CSMT503	Advanced Programming Lab I	1	0	2	3	Core	
CSMT504	Advanced Operating Systems	3	0	1	4	Core	
CSMT502	Selected Topics in Computer Networks	3	0	1	4	Core	
			Total		18		

	M.Tech. (CSE) 3	S rd Sem	este	r			
CS640	Term Project I	0	0	8	8	Core	
XXxxx	Elective III				3/4	E	
XXxxx	Elective IV				3/4	E	
XXxxx	Open Elective II				3	OE	
			Total		17-19		
Choose	Electives from the following elective Groups (Only on	e elec	tive fr	om one gr	oup) or MOC	OCs list.
	Group-l (Ele	ctive III	1)				
CO504	Natural Language Processing	3	0	0	3	E	
CO519	Internet of Things	3	0	1	4	E	
CS621	Mobile Computing	4	0	0	4	E	
	Group-II (Ele	ctive I\	/)				
CO513	Fundamentals of Speech Processing	3	0	1	4	E	
CS638	Software Defined Networking &	3	0	0	3	E	
C3038	Network Function Virtualization	3	U	U	3	E	
CS602	Image Processing	3	0	0	3	E	
	B.Tech. 1 st S	emest	er				
CSBT100	Programming for Problem Solving	2	0	0	2	Core	
CSBT101	Programming Lab	0	0	2	2	Core	
CO104	Computing Lab	0	0	2	2	Core	For Backlo
	B.Tech. 3 rd S	emest	er			1	
CSBT201	Discrete Mathematics	3	1	0	4	Core	
CSBT202	Data structures	3	1	0	4	Core	
CSBT203	Data structures laboratory	0	0	2	2	Core	
CSBT204	Digital Logic Design	3	0	1	4	Core	
	IT Workshop (Sci Lab/MATLAB/Python						
CSBT205	etc.)	1	0	2	3	Core	
APMS200	Mathematics - III	3	0	0	3	Core	
SEEC201	IDEA Lab Workshop	0	0	2	0	Audit Course	
			Total		20		
	B.Tech. 5 th S						
CO303	Computer Graphics	3	0	1	4	Core	
CO309	Operating Systems	3	0	0	3	Core	
CO310	Operating Systems Lab	0	0	1	1	Core	
CO311	Software Engineering	3	0	0	3	Core	
CO312	Database Systems	3	0	0	3	Core	
CO313	Database Systems Lab	0	1	1	2	Core	
LW301	Indian Constitution	1	0	0	0	Audit	
XXxxx	Elective-I (PEC01)	+-	Ť		3	E	

Open Elective-I (OEC01)						
Open Elective 1 (Ozeo1)				3	E	
		Tota		22		
Choose Elective-I from the	ollowi	ng ele	ctive li	1		
Cryptography	3	0	0	3	E	
Image Processing	3	0	0	3	E	
Fundamentals of Speech Processing	3	0	1	4	E	
B. Tech. 7 th S	emes	ter				
Artificial Intelligence	3	0	0	3	Core	
Project II	0	0	0	4	Core	
Summer Internship /Industrial Training	0	0	0	0	Audit	
Essence of Traditional Indian Knowledge	1	0	0	0	Audit	
Comprehensive Written Exam	0	0	0	0	Audit	
HSS/Management Elective	3	0	0	3	E	
Elective III				3/4	E	
Elective IV				3/4	E	
Open Elective III				3	OE	
		Total		20		
Choose HSS/Management Elect	ive fro	m the	follow	ing list		
Social Responsibility and Professional Ethics in Engineering Social Responsibility and Professional 3 0 0 3 E						
Ethics in Engineering	3	Ü	0	3	L	
Ethics in Engineering Electives from the following elective Groups (C	Only or	e elec	tive fro	om one g		OCs list.
Ethics in Engineering	Only or	ie elec C's Op	tive fro	om one g		OCs list.
Ethics in Engineering Electives from the following elective Groups (Company Department)	Only or	ie elec C's Op	tive fro	om one g		OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Control	Only or MOO	ie elec C's Op	tive fro	om one gr	roup) or MO	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Couper Electives may be taken from Group-I (Electives May Described Processing Software Defined Networking & Network Function Virtualization	Only or MOO ctive II	e elec C's Op I)	tive from Elec	om one g	roup) or MO	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Control	Only or MOO tive II	oe elec C's Op I) 0	tive from Electric 1	om one grative List.	E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Coup-I) Group-I (Electives may be taken from Group-I) Fundamentals of Speech Processing Software Defined Networking & Network Function Virtualization Image Processing Group-II (Electives from the following elective Group-II) Group-II (Electives from the following elective Group-II)	Only or MOO tive II	oe elec C's Op I) 0	tive from Electric 1	om one grative List.	E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Coup-I (Electives may be taken from Group-I (Electives may be taken from Group-	Only or MOO tive II 3 3 3	oe elec C's Op I) 0 0	tive from Electric 1	om one grative List.	E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Component Electives may be taken from Group-I (Electives May be taken from Group-II (Electives May be taken from Group-	Only or MOO ctive II 3 3 3 ctive I' 3	one electronic of the control of the	tive from Electric 1 0 0	om one grative List.	E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Couper Electives may be taken from Group-I (Electives Matural Language Processing Internet of Things Mobile Computing	Only or MOO tive II 3 3 3 ctive I'	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tive from Electric 1	om one grative List. 4 3 3 4	E E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Component Electives may be taken from Group-I (Electives May be taken from Group-II (Electives May be taken from Group-	Only or MOO Stive II 3 3 3 4 3 4 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tive from Electric 1 0 0 1 0 1 0	om one grative List. 4 3 3 4 4	E E E E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Couper Electives may be taken from Group-I (Electives May be taken from Group-II (Electiv	Only or MOO Stive II 3 3 3 4 3 4 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tive from Electric 1 0 0 1 0 1 0	om one grative List. 4 3 3 4 4	E E E E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Control of Control	Only or MOO tive II 3 3 3 ctive I' 3 4 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	tive from Electric from 1	om one gi tive List.	E E E E E E	OCs list.
Ethics in Engineering Electives from the following elective Groups (Conception of Coup-I (Electives may be taken from Group-I (Electives Matural Defined Networking & Network Function Virtualization Image Processing Group-II (Electives may be taken from Group-I (Electives Matural Language Processing Internet of Things Mobile Computing Advanced Operating Systems Ph.D. Algorithms and Complexity	Only or MOO ctive II 3 3 3 4 3 4 3	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 1	om one grative List. 4 3 3 4 4 4	E E E E Core	OCs list.
Ethics in Engineering Electives from the following elective Groups (Compension of Componsion of Com	3 3 3 4 3 4 4 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 1	3 3 4 4 4 4 4	E E E E Core Core	OCs list.
Ethics in Engineering Electives from the following elective Groups (Concentration of Speech Processing) Fundamentals of Speech Processing Software Defined Networking & Network Function Virtualization Image Processing Group-II (Electives may be taken from Group-II (Electives) Group-II (Electives) Image Processing Internet of Things Mobile Computing Advanced Operating Systems Ph.D. Algorithms and Complexity Doctoral Research Methodology Research and Publication Ethics	3 3 3 4 3 4 4 4	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	1 0 0 1 0 1	3 3 4 4 4 4 4 2	E E E E Core Core Core	OCs list.
	Cryptography Image Processing Fundamentals of Speech Processing B. Tech. 7 th S Artificial Intelligence Project II Summer Internship /Industrial Training Essence of Traditional Indian Knowledge Comprehensive Written Exam HSS/Management Elective Elective III Elective IV Open Elective III Choose HSS/Management Elective	Cryptography 3 Image Processing 3 Fundamentals of Speech Processing 3 B. Tech. 7 th Semest Artificial Intelligence 3 Project II 0 Summer Internship /Industrial Training 0 Essence of Traditional Indian Knowledge 1 Comprehensive Written Exam 0 HSS/Management Elective 3 Elective III Elective IV Open Elective III Choose HSS/Management Elective from	Cryptography Image Processing 3 0 Fundamentals of Speech Processing 3 0 B. Tech. 7 th Semester Artificial Intelligence 3 0 Project II 0 0 0 Summer Internship /Industrial Training 0 0 Essence of Traditional Indian Knowledge Comprehensive Written Exam 0 0 HSS/Management Elective 3 0 Elective III Elective IV Open Elective III Total Choose HSS/Management Elective from the	Cryptography 3 0 0 Image Processing 3 0 0 Fundamentals of Speech Processing 3 0 1 B. Tech. 7 th Semester Artificial Intelligence 3 0 0 Project II 0 0 0 0 Summer Internship /Industrial Training 0 0 0 Essence of Traditional Indian Knowledge Comprehensive Written Exam 0 0 0 HSS/Management Elective 3 0 0 Elective III Elective IV Open Elective III Choose HSS/Management Elective from the follow	Image Processing 3 0 0 3	Cryptography 3 0 0 3 E Image Processing 3 0 0 3 E Fundamentals of Speech Processing 3 0 1 4 E B. Tech. 7 th Semester Artificial Intelligence 3 0 0 3 Core Project II 0 0 0 4 Core Summer Internship /Industrial Training 0 0 0 Audit Essence of Traditional Indian Knowledge 1 0 0 0 Audit Comprehensive Written Exam 0 0 0 Audit HSS/Management Elective 3 0 0 3 E Elective III 3/4 E Open Elective III 3 0E Total 20 Choose HSS/Management Elective from the following list

Group-1									
CS638	Software Defined Networking & Network Function Virtualization	3	0	0	3	E			
CS602	Image Processing	3	0	0	3	E			
CS607	Optimization Techniques	3	0	0	3	E			
	Group-2								
CS621	Mobile Computing	4	0	0	4	E			
CS620	Data Science	3	0	1	4	E			
CS614	Recommender System	3	0	1	4	Е			
Open Electives (for Non-CSE, i.e., students from other Departments)									
CS535	Introduction To Scientific Computing	3	0	0	3	OE			
CS536	Computer Applications and Information Management	2	0	1	3	OE			

List of MOOCs courses offered as electives by the Dept. of CSE in Autumn-2025

Code		Name	Duration (weeks)	Credit	Degree
CS654	noc25-cs89	Programming, data structures and algorithms using Python	8	2	UG
CS658	noc25-cs102	Social Networks	12	3	UG
CS660	noc25-cs110	Programming in Java	12	3	UG
CS661	noc25-cs101	Data Science for Engineers	8	2	UG/PG
CS669	noc25-cs146	Introduction to Industry 4.0 and Industrial Internet of Things	12	3	UG/PG
CS670	noc25-cs106	Deep Learning/ IIT Ropar	12	3	UG/PG
CS671	noc25-cs92	Reinforcement Learning	12	3	UG/PG
CS672	noc25-cs142	Ethical Hacking	12	3	UG/PG
CS673	noc25-cs125	Demystifying networking	4	1	UG/PG
CS677	noc25-cs91	Introduction to Machine Learning	12	3	UG/PG
CS678	noc25-cs103	The Joy of Computing Using Python	12	3	UG/PG
CS652	noc25-cs117	Privacy and Security in Online social media	12	3	UG

List of MOOCs courses offered as Open electives for the Dept. of CSE in Autumn-2025

Code	Name	Duration	Credit	Degree
EE610	Solar Energy Engineering and Technology	12	3	UG/PG
FE676	understanding incubation and entrepreneurship	12	3	UG
ME577	Operations and Supply chain management	12	3	UG/PG
ME462	Automation in Manufacturing	12	3	UG
ME453	Work system design	12	3	UG
ME456	Aircraft Propulsion	12	3	UG/PG

EE602	Electronic Systems for Cancer Diagnosis	12	3	UG
EE611	Design of photovoltaic systems	12	3	UG
EE685	Industrial Safety Engineering	12	3	UG
EE688	Entrepreneurship	12	3	UG
CE461	Municipal Solid Waste Management	12	3	UG
CE576	Introduction to Engineering Seismology	12	3	UG
EC473	Introduction to Photonics	12	3	UG/PG

(S. Saharia) Head, CSE