

COURSE SCHEME														
BATCH 2025-2029														
BTECH IN COMPUTER SCIENCE & ENGINEERING														
As per the guidelines of NEP 2020 with Multiple Entry and Exit option														
SEMESTER I														
S. No	NSQF/ NATIONAL CREDIT FRAMEWORK NCF CREDIT LEVEL	BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit
						L	T	P	Assignment	TA	Total	ESE		
1	4.5	Basic ScienceCourse	Multidisciplinary Course (MDC)	3BSC101	Physics	3	1	0	20	10	30	70	100	4
2		Basic ScienceCourse	Core Course (CC)- Minor	3BSC102	Mathematics I	3	1	0	20	10	30	70	100	4
3		Engineering ScienceCourse	Core Course (CC)- Minor	3ESC101	Basic Electrical Engineering	3	1	0	20	10	30	70	100	4
4		Engineering Science Course	Core Course (CC)- Minor	3ESC102	Engineering Graphics & Design	2	0	0	20	10	30	70	100	2
5		Humanities andSocial Sciences	Ability Enhancement Courses (AEC)	3HSMC101	English	3	0	0	20	10	30	70	100	3
PRACTICAL /SESSIONAL														
1	4.5	Basic Science Course	Skill Enhancement Course (SEC)	3BSC101P	Physics Lab	0	0	2			30	20	50	1
2		Engineering Science Course	Skill Enhancement Course (SEC)	3ESC101P	Basic Electrical Engineering Lab	0	0	2			30	20	50	1
3		Engineering Science Course	Skill Enhancement Course (SEC)	3ESC102P	Engineering Graphics & Design Lab	0	0	2			30	20	50	1
											TOTAL		650	20
SEMESTER II														
S.No.		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit
						L	T	P	Assignment	TA	Total	ESE		
1	4.5	Basic ScienceCourse	Multidisciplinary Course (MDC)	3BSC103	Chemistry	3	1	0	20	10	30	70	100	4
2		Basic ScienceCourse	Core Course (CC)- Minor	3BSC104	Mathematics II	3	1	0	20	10	30	70	100	4
3		Engineering ScienceCourse	Core Courses (CC)- Major	3ESC103	Programming for Problem Solving	3	0	0	20	10	30	70	100	3
4		Engineering ScienceCourse	Skill Enhancement Course (SEC)	3ESC105	Computer Assembly and Repair	1	0	0	20	10	30	70	100	1
5		Mandatory Course	Value Added Course (VAC)	3MC101	Environmental Science	3	0	0	20	10	30	70	100	3
6		Value Added Course	Value Added Course (VAC)	3VAC101	Character Building & Holistic Development of Personality-I (Spiritual & Mental Health)	2	0	0	20	10	30	70	100	2
PRACTICAL /SESSIONAL														
1	4.5	Basic ScienceCourse	Skill Enhancement Course (SEC)	3BSC103P	Chemistry Lab	0	0	2			30	20	50	1
2		Engineering Science Course	Core Courses (CC)- Major	3ESC103P	Programming for Problem SolvingLab	0	0	2			30	20	50	1
3		Engineering ScienceCourse	Skill Enhancement Course (SEC)	3ESC105P	Computer Assembly and Repair Lab	0	0	2			30	20	50	1
											TOTAL		650	20
NOTE: Mandatory Vocational /Industrial Training(4Weeks) or any specialized course of minimum 4 credits offered by respective department for student opting for exit after first year with UG CERTIFICATE														

SEMESTER III															
S.No		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit	
						L	T	P	Assignment	TA	Total	ESE			
1	5	Basic Science Course	Core Courses (CC)- Major	3BSC201	MathematicsIII (Probability & Statistics)	2	0	0	20	10	30	70	100	2	
2		Basic Science Course	Core Course (CC)- Minor	3BSC202	Biological Science for Engineers	3	0	0	20	10	30	70	100	3	
3		Engineering Science Course	Core Course (CC)- Minor	3ESC201	Analog Electronics Circuit	3	0	0	20	10	30	70	100	3	
4		Professional Core Course	Core Courses (CC)- Major	3PCCCS201	Data Structure And Algorithms	3	0	0	20	10	30	70	100	3	
5		Professional Core Course	Core Courses (CC)- Major	3PCCCS202	Computer Organization & Architecture	3	0	0	20	10	30	70	100	3	
6		Humanities and Social Science	Ability Enhancement Course (AEC)	3HSMC201	Effective Technical Communication	2	0	0	20	10	30	70	100	2	
8		Mandatory Course	Value Added Course (VAC)	3UMC102	Community Engagement and Social Responsibility	1	0	2	40	10	50	50	100	2	
PRACTICAL /SESSIONAL															
1	5	Engineering Science Course	Core Course (CC)- Minor	3ESC201P	Analog Electronics Circuit Lab	0	0	2			30	20	50	1	
2		Professional core Course	Core Courses (CC)- Major	3PCCCS201P	Data Structure And Algorithms Lab	0	0	2			30	20	50	1	
3		Professional core Course	Core Courses (CC)- Major	3PCCCS202P	Computer Organization & Architecture Lab	0	0	2			30	20	50	1	
											TOTAL	850	21		
SEMESTER IV															
S.No.		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				Subject Total	Credit	
						L	T	P	Assignment	TA	Total	ESE			
1	5	Engineering Science Course	Core Course (CC)- Minor	3ESC202	Digital Electronics	3	0	0	20	10	30	70	100	3	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS203	Object Oriented Programming with JAVA	3	0	0	20	10	30	70	100	3	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS204	Discrete Mathematics	3	1	0	20	10	30	70	100	4	
4		Professional Core Course	Core Courses (CC)- Major	3PCCCS205	Design & Analysis of Algorithms	3	0	0	20	10	30	70	100	3	
5		Humanities and Social Sciences	Skill Enhancement Course (SEC)	3HSMC203	Entrepreneurship	3	0	0	20	10	30	70	100	3	
6		Value Added Course	Value Added Course (VAC)	3VAC201	Character Building & Holistic Development of Personality- II (Yoga and Physical Fitness)	2	0	0	20	10	30	70	100	2	
PRACTICAL /SESSIONAL															
1	5	Engineering Science Course	Core Course (CC)- Minor	3ESC202P	Digital Electronics Lab	0	0	2			30	20	50	1	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS205P	Design & Analysis of Algorithms Lab	0	0	2			30	20	50	1	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS203P	Object Oriented Programming with JAVA Lab	0	0	2			30	20	50	1	
											TOTAL	850	21		
NOTE: Mandatory Vocational /Industrial Training(4Weeks) or any specialized course of minimum 4 credits offered by respective department for student opting for exit after second year with UG DIPLOMA															

SEMESTER V															
S.No		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme			Subject Total	Credit		
						L	T	P	Assignment	TA	Total			ESE	
1	5.5	Professional Core Course	Core Courses (CC)- Major	3PCCCS301	Database Management Systems	3	0	0	20	10	30	70	100	3	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS302	Formal Language & Automata Theory	3	0	0	20	10	30	70	100	3	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS304	IT Workshop (Sci Lab/MATLAB)	2	0	0	20	10	30	70	100	2	
4		Professional Core Course	Core Courses (CC)- Major	3PCCCS305	Operating Systems	3	0	0	20	10	30	70	100	3	
5		Track Elective	Core Courses (CC)- Major		Track Elective - I	3	0	2	20	10	30	70	150	4	
6		Value Added Course	Value Added Course (VAC)	3VAC301	Character Building & Holistic Development of Personality- III (Universal Human Values and Ethics)	2	0	0	20	10	30	70	100	2	
7		Internship	Internship	3INT301	Internship	0	0	4				100	100	2	
PRACTICAL /SESSIONAL															
1	5.5	Professional Core Course	Core Courses (CC)- Major	3PCCCS301P	Database Management Systems Lab	0	0	2			30	20	50	1	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS304P	IT Workshop Lab (Sci Lab/MATLAB)	0	0	2			30	20	50	1	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS305P	Operating Systems Lab	0	0	2			30	20	50	1	
											TOTAL	900	22		
SEMESTER VI															
S.No.		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme			Subject Total	Credit		
						L	T	P	Assignment	TA	Total			ESE	
1	5.5	Professional Core Course	Core Courses (CC)- Major	3PCCCS306	Compiler Design	3	0	0	20	10	30	70	100	3	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS307	Computer Networks	3	0	0	20	10	30	70	100	3	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS308	Fundamentals of Software Engineering	3	0	0	20	10	30	70	100	3	
4		Track Elective	Core Courses (CC)- Major		Track Elective II	3	0	0	20	10	30	70	100	3	
5		Track Elective	Core Courses (CC)- Major		Track Elective III	3	0	0	20	10	30	70	100	3	
6		Open Elective Course	Core Course (CC)- Minor		Open Elective I / MOOCs I	3	0	0	20	10	30	70	100	3	
PRACTICAL /SESSIONAL															
1	5.5	Professional Core Course	Core Courses (CC)- Major	3PCCCS306P	Compiler Design Lab	0	0	2			30	20	50	1	
2		Professional Core Course	Core Courses (CC)- Major	3PCCCS307P	Computer Networks Lab	0	0	2			30	20	50	1	
3		Professional Core Course	Core Courses (CC)- Major	3PCCCS308P	Fundamentals of Software Engineering Lab	0	0	2			30	20	50	1	
4		Project	Project	3PROJCS301	Project-I	0	0	6	20	10	50	50	100	3	
											TOTAL	800	24		

SEMESTER VII															
S. No		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				SubjectTotal	Credit	
						L	T	P	Assignment	TA	Total	ESE			
1	6	Track Elective	Core Courses (CC)- Major		Track Elective IV	3	0	0	20	10	30	70	100	3	
2		Track Elective	Core Courses (CC)- Major		Track Elective V	3	0	2	20	10	30	70	150	4	
3		Track Elective	Core Courses (CC)- Major		Track Elective VI	3	0	0	20	10	30	70	100	3	
4		Professional Core Course	Core Courses (CC)- Major	3PCCCS401		Introduction to Cyber Security	3	0	0	20	10	30	70	100	3
5		Open ElectiveCourse	Multidisciplinary Course (MDC)			Open Elective II / MOOCs II	3	0	0	20	10	30	70	100	3
PRACTICAL /SESSIONAL															
2	6	Project	Project	3PROJCS401	Project-II	0	0	8			100	100	200	4	
											TOTAL	650	20		
SEMESTER VIII															
S.No.		BROAD CATEGORY	CATEGORY	CODE	COURSE TITLE	Periods			Evaluation Scheme				SubjectTotal	Credit	
						L	T	P	Assignment	TA	Total	ESE			
1	6	Track Elective	Core Courses (CC)- Major		Track Elective VII	4	0	0	20	10	30	70	100	4	
2		Open ElectiveCourse	Core Course (CC)- Minor		Open Elective-III / MOOCs III	3	0	0	20	10	30	70	100	3	
3					3UMC101	Managing Personal Finance##	2	0	0			50	0	50	0
PRACTICAL /SESSIONAL															
1	6	Project	Project	3PROJCS402	Project-III	0	0	16			100	100	200	8	
											TOTAL	450	15		

Semester	Total Credit (Without Vocational Course)	Total Credit (With Vocational Course)
1	20	20
2	20	20
Year 1 (Certificate)	40	44
3	21	21
4	21	21
Year 2 (Diploma)	82	86
5	22	
6	24	
	128	NA
7	20	
8	15	
Year 4 (B.Tech Regular)	163	NA

## NOTE: Qualifying Non Credit Course			
NOTE: 20% credit earned through MOOC(SWAYAM) in the course			
B.Tech(CSE)			
CHOICE BASED CREDIT SYSTEM			
	Category	Credit Distribution	Proposed Credit Points
1	Core Courses (CC)- Major	80	79
2	Core Course (CC)- Minor	32	31
3	Multidisciplinary Course (MDC)	9	10
4	Ability Enhancement Course (AEC)	8	5
5	Skill Enhancement Course (SEC)	9	10
6	Value Added Course (VAC)	06-08	11
7	Project	12	15
8	Internship	02-04	2
Total Credits			163

Track Elective							
		CODE	Specialisation in ARTIFICIAL INTELLIGENCE	L	T	P	C
SEM V		3TECCS301	Introduction to Python Programming	3	0	2	4
		3TECCS302	Advanced Software Engineering	3	0	2	4
		3TECCS307	Pattern Recognition	4	0	0	4
		3TECCS308	Intelligent systems	4	0	0	4
SEM VI		3TECCS311	Distributed Database Management System	3	0	2	4
		3TECCS312	Machine Learning	3	0	0	3
		3TECCS313	Web Technology	3	0	2	4
		3TECCS319	Statistics for Artificial Intelligence	3	0	0	3
		3TECCS318	Data Mining	3	0	0	3
		3TECCS320	Knowledge Representation	3	0	0	3
SEM VII		3TECCS401	Internet -of-Things	3	0	0	3
		3TECCS402	Artificial Intelligence	3	0	2	4
		3TECCS410	Supervised Machine Learning	3	0	0	3
		3TECCS411	Deep Learning	3	0	0	3
		3TECCS412	Natural Language Processing	3	0	0	3
		3TECCS406	AI for games	3	0	2	4
SEM VIII		3TECCS421	Computer Vision	4	0	0	4
		3TECCS422	UnSupervised Machine Learning	4	0	0	4
		3TECCS423	Introduction to Robotics	4	0	0	4
		3TECCS424	AI/ML Analyst	4	0	0	4

Open Electives						
Select any one in VI, VII, VIII semester						
Code	Course Title	L	T	P	Credits	
3OEC101	Cryptography and Network Security	3	0	0	3	
3OEC102	Cyber Law and Ethics	3	0	0	3	
3OEC103	Indian Knowledge System	3	0	0	3	

Open Elective can be opted by MOOCs

The students of B.Tech CSE can opt for any of the courses offered by the other Departments / Programs in the same semester