

**B.Tech (Information Technology)
Four Year Program
Academic Curriculum (2025-2029 Batch)**

Curriculum Components

Component	Credits
1. University Core (3 Courses)	6
2. University Elective (2 Courses)	6
3. Basic Science (9 Courses)	23
4. Engineering Science (9 Courses)	18
5. Program Core (31 Courses)	71
6. Program Elective / MOOCs(5 Courses)	15
7. Project / Summer Internship Project (11 Courses)	21
8. Proficiency (Non-Graded)	6
Total	160

First Year - Autumn Semester

Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage			
							CW	MTE	ETE	
		L	T	P						
UC 23.101	Human Values & Professional Ethics	2	0	0	2	3	10	40	50	
MA 23.101	Mathematics-I	3	1	0	4	3	10	40	50	
PY 23.101	Engineering Physics	3	0	0	3	3	10	40	50	
EE 25.101	Basics of Electrical Engineering	3	0	0	3	3	10	40	50	
CS 23.101	Programming for Problem Solving	3	0	0	3	3	10	40	50	
PY 23.111	Physics laboratory	0	0	2	1	2	50	50		
EE 23.111	Electrical Laboratory	0	0	2	1	2	50	50		
CS 23.111	Programming Laboratory	0	0	4	2	2	50	50		
ME 23.112	Mechanical Workshop	0	0	2	1	2	50	50		
CY 23.102	Environmental Sciences	2	0	0	2	3	10	40		50
PB 25.101	Project Based Learning	0	0	2	1	50				50
SF 101	Personal Grooming and Fine Dining(Non Grade)	0	0	2	1	2	50			50
	Total				23					

First Year -Spring Semester

Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage			
		L	T	P			CW	MTE		ETE
UC 23.102	Pragmatic English Communication	2	0	0	2	3	10	40		50
MA 23.102	Mathematics-II	3	1	0	4	3	10	40		50
CY 23.101	Engineering Chemistry	3	0	0	3	3	10	40		50
ME 25.101	Applied Mechanics	3	0	0	3	3	10	40		50
EC 25.101	Basics of Electronics Engineering	3	0	0	3	3	10	40		50
CS 23.102	Object Oriented Programming Through C++	3	0	0	3	3	10	40		50
ME 23.111	Computer Aided Engineering Drawing	0	0	4	2	2	50			50
CY 23.111	Chemistry Laboratory	0	0	2	1	2	50			50
EC 23.111	Electronics Laboratory	0	0	2	1	2	50			50
CS 23.112	Object Oriented Programming Laboratory	0	0	2	1	2	50			50
PB 25.102	Project Based Learning	0	0	2	1		50			50
SF 102	Social Grooming, Home & Decor and Business Communication (Non Grade)	0	0	2	1	2	50			50
	Total				24					

Project Based Learning (PBL) in Group of 3-5 Students.

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Second Year - Autumn Semester										
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage			
		L	T	P			CW	MTE	PBL	ETE
MA 23.201	Mathematics-III	3	1	0	4	3	10	40		50
CS 25.201	Discrete Mathematics	3	0	0	3	3	10	40		50
CS 23.203	Data Structures	3	0	0	3	3	10	40		50
CS23.205	General Purpose Programming	3	0	0	3	3	10	40		50
EC 23.202	Digital Electronics	3	0	0	3	3	10	40		50
CS 23.253	Data Structures Laboratory	0	0	2	1	2	50			50
CS 23.255	General Purpose Programming laboratory	0	0	2	1	2	50			50
EC 23.224	Digital Electronics Laboratory	0	0	2	1	2	50			50
PB 25.201	Project Based Learning	0	0	2	1		50			50
SF 201	Personal Grooming Fine Dining and Home Safety (Non Grade)	0	0	2	1	2	50			50
					20					

Second Year -Spring Semester										
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage			
		L	T	P			CW	MTE	ETE	
UC 25.201	Management and Entrepreneurship	2	0	0	2	2	10	40		50
UE	University Elective-I	3	0	0	3	3	20			80
CS23.204	Database Management Systems	3	0	0	3	3	10	40		50
CS 25.202	Advanced Programming	3	0	0	3	3	10	40		50
CS23.206	Theory of Computation	3	0	0	3	3	10	40		50
CS23.208	Computer Organization and Architecture	3	0	0	3	3	10	40		50
CS 23.211	Software Engineering	3	0	0	3	3	10	40		50
CS23.252	Advanced Programming Laboratory	0	0	2	1	2	50			50
CS23.254	Database Management Systems Laboratory	0	0	2	1	2	50			50
PB 25.202	Project Based Learning	0	0	2	1		50			50
SF 202	Social Grooming and Professional Skills(Non Grade)	0	0	2	1	2	50			50
					23					

Project Based Learning (PBL) in Group of 3-5 Students,

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Third Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
RM 23.101	Research Methodology	2	0	0	2	3	10	40	50
CS23.301	Design and Analysis of Algorithms	3	0	0	3	3	10	40	50
CS23.303	Operating System	3	0	0	3	3	10	40	50
CS23.309	Computer Graphics	3	0	0	3	3	10	40	50
	Program Elective 1*	0	0	0	3		Based on NPTEL exam		
CS23.351	Design and Analysis of Algorithms Laboratory	0	0	2	1	2	50		50
CS23.359	Computer Graphics Laboratory	0	0	2	1	2	50		50
CS23.353	Operating System Laboratory	0	0	2	1	2	50		50
CS 23.373	Summer Internship-I**	0	0	0	2	-	100		
CS 23.371	Project-1	0	0	4	2	2	-	50	50
GE 25.301	Proficiency (Non Credit, Non Grade)	-	-	-	1		100		
					22				

Third Year -Spring Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
CS 23.312	Embedded Programming	3	0	0	3	3	10	40	50
CS23.306	Computer Networks	3	0	0	3	3	10	40	50
CS 23.308	Web Technologies	3	0	0	3	3	10	40	50
CS23.302	Artificial Intelligence and Machine Learning	3	0	0	3	3	10	40	50
CS23.391	Block chain Components and Architecture	3	0	0	3	3	10	40	50
CS 23.392	Colloquium	0	0	2	1	-	100		
CS 23.314	Embedded Programming Laboratory	0	0	2	1	2	50		50
CS 23.356	Computer Networks Laboratory	0	0	2	1	2	50		50
CS 23.358	Web Technologies Laboratory	0	0	2	1	2	50		50
CS 25.359	Artificial Intelligence and Machine Learning Lab	0	0	2	1	2	50		50
CS 23.372	Project-2	0	0	4	2	2	-	50	50
GE 25.302	Proficiency (Non Credit, Non Grade)	-	-	-	1		100		
					23				

*The course may be taken through MOOC. NPTEL/SWAYAM/Coursera will be the authorized platform for this MOOC course. Minimum 8 weeks course is required for a 3 credit. After successful completion of these MOOC courses the students, shall, provide their successful completion NPTEL status/certificates to the University (COE) through HOD/NPTEL coordinator. The Course code of MOOC courses will be same as the course code given in NPTEL Certificate.

Proficiency (Non-Credit/Non Grade) shall be measured through level of participation in skill development programs i.e., sports, Yoga, Life skills, Music, Fine Arts , SEFS or decided by Departmental academic Committee

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Fourth Year - Autumn Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
UE	University Elective-II	3	0	0	3	3	20		80
	Program elective-2	3	0	0	3	3	10	40	50
	Program elective-3	3	0	0	3	3	10	40	50
CS 23.473	Summer Internship-II**	0	0	0	2	-	100		
CS 23.471	Capstone Project-1	0	0	4	2		100		
					13				

Fourth Year -Spring Semester									
Course Code	Course Title	Contact Hours Per Week			Credits	ETE Duration (Hours)	Weightage		
		L	T	P			CW	MTE	ETE
	Program elective-4	3	0	0	3	3	10	40	50
	Program elective-5	3	0	0	3	3	10	40	50
CS23.472	Capstone Project-2	0	0	12	6			50	50
	Total				12				

** Summer Internship-I and II must be performed in an Industry between summer vacation of end of Second Year and end of Third Year.

Credit Distribution across all Components								
Semester	UC	UE	BS	ES	PC	PE	Proj/SIP	Total
First	2		10	6	5			23
Second	2		8	11	4			25
Third	2		4	4	12			22
Fourth	2	3			17			22
Fifth			2		13	3	4	22
Sixth					18		3	21
Seventh		3				6	4	13
Eighth						6	6	12
Total	8	6	24	21	69	15	17	160

UC	University Core
UE	University Elective
BS	Basic Science
ES	Engineering Science
PC	Program Core
PE	Program Elective / MOOC
Proj/SIP	Project/Summer Internship

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Program Elective 1	
	MOOC

Program Elective 2	
CS 23.412	Big Data and Unstructured Databases
CS23.482	Cyber Security with Bloch chain
CS 23.462	Mobile App Development (Infosys)

Program Elective 3	
CS23.492	Cyber Physical Systems
CS23.384	Introduction to IOT
CS 23.461	Cloud Computing (Infosys)

Program Elective 4	
CS23.394	Wireless sensor network and IOT Standards
CS 23.495	Principles and Practices of Secure Computing
CS 23.463	Agile Software Development (Infosys)

Program Elective 5	
CS 23.376	Network Security and Cryptography
CS 23.397	Deep Learning
CS 23.465	Machine Learning using R (Infosys)