

2024 onwards Curriculum for B. Tech. in Computer Science & Engineering

FIRST SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	BSC	15B11MA111	Mathematics-1	3	1	0	4	4
2	BSC	15B11PH111	Physics-1	3	1	0	4	4
3	BSC	15B17PH171	Physics Lab-1	0	0	2	2	1
4	ESC	15B11CI111	Software Development Fundamentals-I	3	1	0	4	4
5	ESC	24B15CS111	Software Development Fundamentals Lab-I	0	0	2	2	1
6	ESC	24B11EC111	Basic Electronics	3	1	0	4	4
7	ESC	24B15EC111	Basic Electronics Lab	0	0	2	2	1
8	HSC	15B11HS112	English	1	0	2	3	2
9	ESC	18B15GE112	Workshop	0	0	3	3	1.5
Total							28	22.5

SECOND SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	BSC	15B11MA211	Mathematics-2	3	1	0	4	4
2	BSC	15B11PH211	Physics-2	3	1	0	4	4
3	BSC	15B17PH271	Physics Lab-2	0	0	2	2	1
4	ESC	15B11CI121	Software Development Fundamentals-II	3	1	0	4	4
5	ESC	24B15CS121	Software Development Fundamentals Lab-II	0	0	2	2	1
6	HSC	24B16HS111	Life Skills & Professional Communication Lab	0	0	2	2	Qualifying
7	ESC	18B15GE111	Engineering Drawing & Design	0	0	3	3	1.5
8	HSC	24B11HS111	Universal Human Values (UHV)	2	1	0	3	3
Total							24	18.5

THIRD SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	BSC	24XXXXXX	Mathematical Foundations for Artificial Intelligence and Data Science	3	1	0	4	4
2	PCC	24B11CS212	Theory of Computation	3	0	0	3	3
3	PCC	15B11CI311	Data Structures	3	1	0	4	4
4	PCC	15B17CI371	Data Structures Lab	0	0	2	2	1
5	PCC	24B11CS213	Database Management Systems	3	0	0	3	3
6	PCC	24B15CS213	Database Management Systems Lab	0	0	2	2	1
7	PCC	24B15CS214	Unix Programming Lab	1	0	2	3	2
8	PCC	24B15CS215	Object Oriented Programming using Java	0	0	2	2	1
9	HSC	15B11HS211	Economics	2	1	0	3	3
10	PRC	24B17CS211	Summer Training-I (4 weeks)	0	0	0	0	2
Total							26	24

FOURTH SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	HSC	XXXXXXX	HSS Elective – 1	2	1	0	3	3
2	PCC	XXXXXXX	Digital Systems and Computer Organisation	3	0	0	3	3
	PCC	XXXXXXX	Digital Systems and Computer Organisation Lab	0	0	2	2	1
3	PCC	24B11CS221	Design and Analysis of Algorithms	3	1	0	4	4
4	PCC	24B15CS221	Design and Analysis of Algorithms Lab	0	0	2	2	1
5	PCC	24B11CS222	Artificial Intelligence and Machine Learning	3	0	0	3	3
6	PCC	24B15CS222	Artificial Intelligence and Machine Learning Lab	0	0	2	2	1
7	PCC	24B11CS223	Software Engineering	3	0	0	3	3
9	PCC	XXXXXXX	Competitive Programming Lab	1	0	2	3	2
10	PEC	XXXXXXX	Discipline Elective – 1	2	0	0	2	2
11	PEC	XXXXXXX	Discipline Elective – 1 Lab	0	0	2	2	1
12	OMC	19B13BT211	Environmental Studies	3	0	0	3	Qualifying
Total							32	24

FIFTH SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	PCC	24B11CS312	Operating Systems	3	0	0	3	3
2	PCC	24B15CS312	Operating Systems Lab	0	0	2	2	1
3	PCC	24B11CS313	Computer Networks	3	1	0	4	4
4	PCC	24B15CS313	Computer Networks Lab	0	0	2	2	1
5	PCC	24B15CS314	Full Stack Development Lab	0	0	2	2	1
6	PEC	XXXXXXXX	Discipline Elective – 2	2	0	0	2	2
7	PEC	XXXXXXXX	Discipline Elective – 2 Lab	0	0	2	2	1
8	PEC	XXXXXXXX	Discipline Elective – 3	2	0	0	2	2
9	PEC	XXXXXXXX	Discipline Elective – 3 Lab	0	0	2	2	1
10	BSC	XXXXXXXX	Science Elective	3	0	0	3	3
11	OMC	18B12HS311	Indian Constitution & Traditional Knowledge	3	0	0	3	Qualifying
12	PRC	24B17CS311	Summer Training-II (6 weeks)	0	0	0	0	2
Total							27	21

SIXTH SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	PCC	24B11CS321	Web Technology	3	0	0	3	3
2	PCC	24B15CS321	Web Technology Lab	0	0	2	2	1
3	PCC	24B11CS322	Advanced Data Structures and Algorithms	3	0	0	3	3
4	PCC	24B15CS322	Advanced Data Structures and Algorithms Lab	0	0	2	2	1
5	(FLEXI CORE)	24B11CS323	Distributed and Cloud Computing	3	0	0	3	3
		24B11CS324	Information Security and Cryptography					
6	PEC	XXXXXXXX	Discipline Elective – 4	3	0	0	3	3
7	PEC	XXXXXXXX	Discipline Elective – 5	3	0	0	3	3
8	OEC	XXXXXXXX	Open Elective – 1	2	0	0	2	2
9	Value Added	XXXXXXXX	Selected Value Added Course	2	0	0	2	Audit
10	HSC	24B15HS311	Soft Skill For Employability	0	0	2	2	1
11	PRC	24B17CS312	Minor Project	0	0	4	4	2
Total							29	22

SEVENTH SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	PEC	XXXXXXX	Discipline Elective – 6	3	0	0	3	3
2	OEC	XXXXXXX	Open Elective – 2	3	0	0	3	3
3	PRC	15B19CI791	Major Project Part – 1	0	0	0	8	4
4	PRC	24B17CS411	Summer Training - III (6 weeks)	0	0	0	0	4
Total							14	14

EIGHTH SEMESTER

S. No.	Course			Contact Hours				Credits
	Category	Course Code	Course Title	L	T	P	Total	
1	PEC	XXXXXXX	Discipline Elective –7	3	0	0	3	3
2	OEC	XXXXXXX	Open Elective –3	3	0	0	3	3
3	PRC	15B19CI891	Major Project Part –2	0	0	0	16	8
Total							22	14

Total Program Credits: 22.5 + 18.5 + 24 + 24 + 21 + 22 + 14 + 14 = 160

Tentative List of Electives (To be updated time to time)

Course Code	Course Name	Course Code	Course Name
20B12CS332	Fundamentals of Computer security	21B12CS415	Secure Design of Software Systems
20B12CS333	Introduction to Big data and Data Analytics	19B12CS423	Computing for Data Science
20B12CS336	Automata Theory and its applications	19B12CS427	Introduction to DevOps
21B12CS312	Sensor Technology & Android Programming	21B12CS417	Machine Learning and Big Data
21B12CS319	Fundamentals of Soft Computing	15B1NCI732	Social Network Analysis
21B12CS314	Introduction to Large Scale Database Systems	19B12CS425	Advanced Blockchain: A game theoretic view
21B12CS315	Web Technology and Cyber Security	21B12CS418	Ethical Hacking and Prevention
21B12CS316	Introduction to Compiler Design	21B12CS413	Fog and Edge Computing
21B12CS317	Introduction to Blockchain Technology	22B12CS415	AI for healthcare and smart systems
21B12CS318	Big Data Ingestion	22B12CS412	Digital Forensics and Cyber Laws
21B12CS321	Concepts of Graph theory	22B12CS413	Data Analytics using R and Python
21B12CS411	Big Data with Hadoop and Spark	22B12CS414	Agile Software Development Process
18B12CS428	Introduction to Deep Learning	22B12CS411	Industrial Automation and IoT
21B12CS414	Smart Systems and IOT	22B12CS419	Cryptocurrency Technologies
19B12CS426	IoT Analytics	16B1NCI648	Information Retrieval and Semantic Web
17B1NCI731	Machine Learning and Natural Language Processing	22B12CS422	Cloud computing Essentials: Azure and AWS
22B12CS420	Software Construction using Kubernetes and Microservices	22B12CS418	Unmanned Aerial Vehicles: Design Principles and Applications
24XXXXXX	Principles of Compiler Design	24XXXXXX	Introduction to System Programming