



SCHOOL OF ENGINEERING AND SCIENCES

Department of Computer Science & Engineering

B. Tech Curriculum

2022 Batch

B. Tech. - Computer Science and Engineering [CSE]

Semester-I						
Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
AEC	University AEC	Communicative English	3	0	0	3
FIC	School FIC	Engineering Physics/Chemistry for Engineers	2	0	0	2
FIC	School FIC	Engineering Physics Lab/Chemistry for Engineers Lab	0	0	2	1
FIC	School FIC	Calculus	3	0	0	3
FIC/VAC	School FIC/ University AEC	Introductory Biology for Engineers /Environmental Science	2	0	0	2
SEC	SEC	Industry Specific Employability Skills-I	3	0	0	1
SEC	SEC	Exploratory Learning & Discovery	0	0	2	1
SEC	SEC	Orientation on Internationalization	1	0	0	1
CC	Core	Introduction to Computer Science and Programming Using C	3	0	0	3
CC	Core	Introduction to Computer Science and Programming Using C Lab	3	0	0	1
Semester Total						18

Semester-2						
Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
FIC	School SEC	Linear Algebra	3	0	0	3
CC	Core	Discrete Mathematics	3	0	0	3
FIC/VAC	School FIC/ University AEC	Introductory Biology for Engineers /Environmental Science	2	0	0	2
FIC	School FIC	Basic Electrical and Electronics	3	0	0	3
FIC	School FIC	Basic Electrical and Electronics Lab	0	0	2	1
SEC	SEC	Industry Specific Employability Skills-II	3	0	0	1
SEC	SEC	Industry Standard Coding Practice - I	0	0	4	2
FIC	School FIC	Engineering Physics/Chemistry for Engineers	2	0	0	2
FIC	School FIC	Engineering Physics Lab/Chemistry for Engineers Lab	0	0	2	1
CC	Core	Data Structures - I	3	0	0	3
CC	Core	Data Structures - I Lab	0	0	2	1
Semester Total						22

Semester-3						
Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
AEC	School AEC	Problem Solving Skills	1	0	1	2
VAC	School VAC	Co-Curricular Activities	0	0	2	2*
VAC	School VAC	Community Engagement	2	0	0	2*
SEC	Department/School SEC	Coding Skill - I				2
CC	Core	OOPS with C++	3	0	1	4
CC	Core	Data Structure - II	3	0	1	4
CC	Core	Digital Electronics	3	0	1	4
CC	Core	Hands on with Python	0	0	2	2
OE/Minor	OE/Minor	OE/Minor - I				3
Semester Total						21

Semester-4						
Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits
AEC	School AEC	Creativity and Critical thinking Skills	1	0	1	2
VAC	School VAC	Co-Curricular Activities	0	0	2	2*
VAC	School VAC	Community Engagement	2	0	0	2*
SEC	Department/School SEC	Coding Skill - II				2
CC	Core	Design and Analysis of Algorithms	3	0	1	4
CC	Core	Probability and Statistics	3	0	0	3
CC	Core	Database Management Systems	3	0	1	4
CC	Core	Web Technology	3	0	1	4
OE/Minor	OE/Minor	OE/Minor - II				3
Semester Total						22

Semester - 5								
No	Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits	Learning Hours

1	VAC	School VAC	Co-Curricular Activities	0	0	2	2*	60*
2	VAC	School VAC	Community Engagement	2	0	0	2*	60*
3	SEC	SEC Elective	Career Skills-1				3	90
4	CC	Core	Computer Networks	3	0	1	4	120
5	CC	Core	Operating Systems	3	0	1	4	120
6	CC	Core	Machine Learning	3	0	1	4	120
7	CC	Core	Automata and Compilers Design	3	0	0	3	90
8	CC	Core	Computer Organization and Architecture	3	0	1	4	120
9	OE/Minor	OE/Minor	OE/Minor - III				3	90
Semester Total							25	810

Semester-6								
No	Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits	Learning Hours
1	VAC	School VAC	Co-Curricular Activities	0	0	2	2	60
2	VAC	School VAC	Community Engagement	2	0	0	2	60
3	SEC	SEC Elective	Career Skills-2				3	90
4	CC	Core	Software Engineering & Project Management	3	0	1	4	120
5	CC	Core	Mobile Application Development with Java	3	0	1	3	90
6	CC/CE	Core Elective	Core Elective - I	3	0	0	3	90
7	CE/SE	Stream Elective	Stream Elective - I	3	0	1	4	120
8	CE/SE	Stream Elective	Stream Elective - II	3	0	1	4	120
9	OE/Minor	OE/Minor	OE/Minor - IV				3	90
Semester Total							28	840

Semester-7								
No	Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits	Learning Hours

1	CE/SE	Core Elective	Core Elective - II	3	0	0	3	90
2	CE/SE	Stream Elective	Stream Elective - III	3	0	1	4	120
3	CE/SE	Stream Elective	Stream Elective - IV	3	0	1	4	120
4	RDIP	Internship / Research / Thesis	Summer Internship/Mini Project/Research Project	0	0	2	4	60
5	OE/Minor	OE/Minor					3	90
Semester Total							18	480

Semester-8								
No	Category	Sub-Category	Course Title	L	T/D	P/Pr	Credits	Learning Hours
1	RDIP	Internship / Research / Thesis	Major Project	0	0	12	12	360
Semester Total							12	360

Total Credit (Excluding the subjects marked in Red color)							166	4980
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List of Stream Specific Electives					
Course Code	Course Name	L	T	P	C
Artificial Intelligence and Machine Learning Stream					
SE1 VI	Artificial Intelligence	3	0	1	4
SE2 VI	Digital Image Processing	3	0	1	4
SE3 VII	Deep Learning	3	0	1	4
SE4 VII	Principles of Soft Computing	3	0	1	4
Cyber Security Stream					
SE1 VI	Cryptography and Network Security	3	0	1	4
SE2 VI	Web Application Penetration Testing	3	0	1	4
SE3 VII	Vulnerability Analysis and Cyber Forensics	3	0	1	4
SE4 VII	Blockchain Technology	3	0	1	4
Big Data Analytics Stream					
SE1 VI	Data Warehousing and Mining	3	0	1	4
SE2 VI	Applied Data Science	3	0	1	4
SE3 VII	Principles of Big Data Management	3	0	1	4
SE4 VII	Information Retrieval	3	0	1	4
Distributed and Cloud Computing Stream					
SE1 VI	Parallel and Distributed Computing	3	0	1	4
SE2 VI	Cloud Computing	3	0	1	4
SE3 VII	Edge Computing	3	0	1	4
SE4 VII	Service Oriented Computing	3	0	1	4
Internet of Things Stream					
SE1 VI	Embedded Systems	3	0	1	4
SE2 VI	IoT System Design and Implementation	3	0	1	4
SE3 VII	IoT Data Analytics	3	0	1	4
SE4 VII	IoT Security and Blockchain	3	0	1	4

List of Core Technical Electives					
Course Code	Course Name	L	T	P	C
CSE 321	Human Computer Interaction	3	0	0	3
CSE 322	Advanced Computer Architecture	3	0	0	3
CSE 323	Natural Language Processing	3	0	0	3
CSE 324	Computer Graphics	3	0	0	3
CSE 325	Advanced Data Structures and Algorithms	3	0	0	3
CSE 326	Distributed Operating Systems	3	0	0	3
CSE 420	Data and Web Mining	3	0	0	3
CSE 421	Complexity Theory	3	0	0	3
CSE 422	Software Project Management	3	0	0	3
CSE 423	Multimedia	3	0	0	3
CSE 424	Deep Learning	3	0	0	3
CSE 425	Advanced Database Management Systems	3	0	0	3
CSE 426	Fog Computing	3	0	0	3
CSE 427	Parallel Algorithms	3	0	0	3
CSE 428	Web Services	3	0	0	3
CSE 429	Advances in Data Mining	3	0	0	3
CSE 327	Social Network Analysis	3	0	0	3
CSE 328	Recommender Systems	3	0	0	3
CSE 329	Computational and Complexity Theory	3	0	0	3
CSE 430	Cryptography and Network Security	3	0	0	3
CSE 431	Artificial Intelligence	3	0	0	3
CSE 432	Machine Learning on Edge Computing	3	0	0	3
CSE 433	Mobile and wireless security	3	0	0	3
CSE 434	Internet protocols and networking	3	0	0	3
CSE 435	Mobile application security testing	3	0	0	3
CSE 436	IoT security	3	0	0	3
CSE 437	Biometric Security	3	0	0	3
CSE 438	Cyber Law	3	0	0	3
CSE 439	Ethical Hacking	3	0	0	3
CSE 440	Security audit and Risk Assessment	3	0	0	3
CSE 441	Digital Forensics and Incident Response	3	0	0	3
CSE 442	Security Analytics	3	0	0	3
CSE 443	Multiview Geometry	3	0	0	3
CSE 444	Quantum Computation	3	0	0	3