UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAMME STRUCTURE

INTEGRATED B.TECH. - M.TECH. (CSE)
2021-2026
5 YEAR PROGRAMME

GAUTAM BUDDHA UNIVERSITY
GAUTAM BUDH NAGAR, GREATER NOIDA, UP, INDIA

SEMESTER I

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MA101	Engineering Mathematics-I	3	1	0	4	GE1
2	PH102	Engineering Physics	3	1	0	4	GE2
3	EE102	Basic Electrical Engineering	3	1	0	4	GE3
4	CS101	Computer Organistaion and Architecure	3	1	0	4	CC1
5	ES101	Environmental Studies	3	1	0	4	OE1 / AECC
6	PH104	Engineering Physics Lab	0	0	2	1	GE-L1
7	EE104	Basic Electrical Engineering Lab	0	0	2	1	GE-L2
8	CS183	Computer Organistaion and Architecure Lab	0	0	2	1	CC-L1 / SEC
9	ME102	Workshop Practice	1	0	2	2	GE-L3 / SEC
10	GP	General Proficiency	Non Credit				
		Total Hours and Credits	16	5	8	25	

SEMESTER II

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS101	Fundamentals of Computer Programming	3	1	0	4	CC2 / FC
2	CS102	Concepts of Operating Systems	2	0	0	2	CC3 / FC
3	MA102	Engineering Mathematics-II	3	1	0	4	GE4
4	EC101	Basic Electronics Engineering	3	1	0	4	GE5
5	ME101	Engineering Mechanics	3	1	0	4	GE6
6	EN101	English Proficiency	2	0	0	2	OE2 / AECC
7	CE103	Engineering Graphics Lab	1	0	2	2	GE-L4
8	CS181	Computer Programming Lab	0	0	2	1	CC-L2 /SEC
9	CS182	Operating Systems Lab	0	0	2	1	CC-L3 /SEC
10	EC181	Basic Electronics Engineering Lab	0	0	2	1	GE-L5
11	GP	General Proficiency	Non Credit				
		Total Hours and Credits	17	4	8	25	

SEMESTER III

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS201	Internet Technology	3	0	0	3	CC4
2	CS203	Intelligent Systems	3	0	0	3	CC5
3	CS205	Data Structure & Algorithms	3	0	0	3	CC6 / SEC
4	CS207	Problem Solving using C++	3	0	0	3	CC7
5	EC201	Digital Electronics	3	0	0	3	GE7
6	MA201	Engineering Mathematics-III	3	1	0	4	GE8
7	EC281	Digital Electronics Lab	0	0	3	2	GE-L6
8	CS283	Data Structure & Algorithms Lab	0	0	3	2	CC-L4 / SEC
9	CS285	Object-Oriented Programming Lab	0	0	3	2	CC-L5 / SEC
10	GP	General Proficiency	Non Credit				
		Total Hours and Credits	**18**	**1**	**9**	**25**	

SEMESTER IV

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS202	Software Engineering	3	0	0	3	CC8
2	CS204	Database Management System	3	0	0	3	CC9 / SEC
3	CS206	Java Programming	3	0	0	3	CC10
4	CS208	Artificial Intelligence	3	0	0	3	CC11
5	CS210	Theory of Automata	3	0	0	3	CC12
6	CS212	Discrete Structure	3	1	0	4	CC13
7	CS282	Database Management System Lab	0	0	3	2	CC-L6 / SEC
8	CS284	Java Programming Lab	0	0	3	2	CC-L7 / SEC
9	CS286	Artificial Intelligence Lab	0	0	3	2	CC-L8 / SEC
10	GP	General Proficiency	Non Credit				
		Total Hours and Credits	**18**	**1**	**9**	**25**	

SEMESTER V

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS301	Computer Networks	3	0	0	3	CC14
2	CS303	Compiler Design	3	0	0	3	CC15
3	CS305	Wireless Communication	3	0	0	3	CC16
4	CS307	Python	3	1	0	4	CC17
5		Elective 1	3	0	0	3	E1 / DSE
6		Elective 2	3	0	0	3	E2 / DSE
7	CS381	Computer Networks Lab	0	0	3	2	CC-L9
8	CS383	Compiler Design Lab	0	0	3	2	CC-L10
9	CS385	Python Programming Lab	0	0	3	2	CC-L11 / SEC
10	GP	General Proficiency		Non Credit			
		Total Hours and Credits	18	1	9	25	

SEMESTER VI

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS302	Web Development using PHP	3	0	0	3	CC18 / SEC
2	CS304	Software Testing	3	0	0	3	CC19
3	CS306	Analysis & Design of Algorithms	3	1	0	4	CC20
4	CS308	Cyber Security	3	0	0	3	CC21
5		Elective 3	3	0	0	3	E3 / DSE
6		Elective 4	3	0	0	3	E4 / DSE
7	CS382	Web Development using PHP Lab	0	0	3	2	CC-L12 / SEC
8	CS384	Analysis & Design of Algorithms Lab	0	0	3	2	CC-L13 / SEC
9	CS386	Cyber Security Lab	0	0	3	2	CC-L14 / SEC
10	GP	General Proficiency		Non Credit			
		Total Hours and Credits	18	1	9	25	

Industrial Training will be done by candidate individually after third year during the summer break and it will be of minimum 4 weeks. It will be evaluated as per University Examination in VII semester.

SEMESTER VII

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MA402	Modeling and Simulation	3	0	0	3	GE9
2	CS401	Internet of Things	3	0	0	3	CC22
3	CS403	Soft Computing Techniques	3	0	0	3	CC23
4	CS405	Machine Learning	3	0	0	3	CC24 / SEC
5		Elective 5	3	0	0	3	E5 / DSE
6	CS481	Internet of Things Lab	0	0	3	2	CC-L13 / DSE
7	CS491	Minor Project	0	0	6	3	MP1 / E
8	CS493	Industrial Traning	0	0	10	5	IT1 / E
9	GP	General Proficiency	Non Credit				
		Total Hours and Credits	**15**	**0**	**19**	**25**	

TOTAL OF CREDITS = **175**

B.TECH. TOTAL OF CREDITS = 175
M.TECH. TOTAL OF CREDITS = 104

GRAND TOTAL OF 5 YEAR INTEGRATED B.TECH. CSE - M.TECH. CSE CREDITS = **279**

USICT will give options of specializations to students, which will be offered by USICT at the time of specialization selection (Semester 7) with one form to take preferences of specialization with CGPA till 6th Semester and any back record. USICT will prepare the merit on the basis of CGPA till 6th Semester and as per his / her preferences, USICT will give M.Tech. (CSE/ECE) Specialization (for 8th Semester) to students in equal number of seats in each specilization as per the total students strength in 5 Year Integrated B.Tech.-M.Tech (CSE/ECE).

8th Semester Course structure (M.Tech. CSE 2nd Semester) will be offered to students as per the specializations selected by the students for M.Tech. CSE.

ELECTIVES FROM DCSE

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS309	Computer Graphics	3	0	0	3	E1
2	CS311	Computer Organization & Architecture	3	0	0	3	E1
3	CS313	Android Operating System	3	0	0	3	E1
4	CS315	Computer Based Numerical & Statistical Techniques	3	0	0	3	E1
5	CS317	Data Mining	3	0	0	3	E1
6	CS319	System Analysis & Design	3	0	0	3	E2
7	CS321	Software Project Management	3	0	0	3	E2
8	CS323	Information Retrieval System	3	0	0	3	E2
9	CS325	Graph Theory	3	0	0	3	E2
10	CS327	Knowledge Engineering	3	0	0	3	E2
11	CS310	Digital Image Processing	3	0	0	3	E3
12	CS312	Adhoc & Sensor Networks	3	0	0	3	E3
13	CS314	Expert Systems	3	0	0	3	E3
14	CS316	Fault Tolerant System	3	0	0	3	E3
15	CS318	Mobile Computing	3	0	0	3	E3
16	CS320	Computer Security	3	0	0	3	E4
17	CS322	Management Information System	3	0	0	3	E4
18	CS324	Evolutionary Computation	3	0	0	3	E4
19	CS326	Fuzzy logic	3	0	0	3	E4
20	CS328	Distributed Operating System	3	0	0	3	E4
21	CS407	Pattern Recognition	3	0	0	3	E5
22	CS409	Robotics	3	0	0	3	E5
23	CS411	Optimization Techniques	3	0	0	3	E5
24	CS413	Cloud Computing	3	0	0	3	E5
25	CS415	Big Data Analytics	3	0	0	3	E5

CS	Computer Science	**SEC**	Skill Enhancement Course
CC	Core Course from USICT for Type of Course	**E**	Elective from USICT
GE	General Elective from related discipline of other Deptt./School	**CC-L**	Core Course Lab from USICT
GE L	General Elective Lab from related discipline of other Deptt./School	**IT1**	Industrial Training
OE	Open Elective from other discipline of other Deptt./School	**MP**	Minor / Major Project
AECC	Ability Enhancement Compulsary Course	**S**	Seminar
DSE	Discipline Specific Course	**I**	Internship