

30.1.7

**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

30.1.7

08.09.23



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

School of ICT
Gautam Buddha University
Greater Noida, (U.P.)

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	CS102	Computer Organization and Architecture	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	CS182	Computer Organization and Architecture 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	MA102	Engineering Mathematics-II	3	1	0	4	GE4
2	CS101	Fundamentals of Computer Programming	3	1	0	4	CC2 / FC
3	CS103	Concepts of Operating Systems	2	0	0	2	CC3
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	CS185	Operating System 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	CS211	Intelligent Systems	3	0	0	3	CC5
3	CS205	Data Structure & Algorithms	3	0	0	3	CC6
4	CS207	Problem Solving using C++	3	0	0	3	CC7 / SEC
5	CS209	Logic Design	3	0	0	3	GE7
6	MA201	Engineering Mathematics-III	3	1	0	4	GE8
7	EC281	Data Structure & Algorithms Lab	0	0	3	2	CC-L4 / SEC
8	CS283	Object-Oriented Programming Lab	0	0	3	2	CC-L5 / SEC
9	CS285	Logic Design Lab	0	0	3	2	CC-L6 / 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
3	CS206	Java Programming	3	0	0	3	CC10 / SEC
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-L7 / SEC
8	CS284	Java Programming Lab	0	0	3	2	CC-L8 / SEC
9	CS286	Artificial Intelligence Lab	0	0	3	2	CC-L9 / SEC
10	GP	General Proficiency	Non Credit				
Total Hours and Credits			18	1	9	25	

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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-L10
8	CS383	Compiler Design Lab	0	0	3	2	CC-L11
9	CS385	Python Programming Lab	0	0	3	2	CC-L12 / 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-L13 / SEC
8	CS384	Analysis & Design of Algorithms Lab	0	0	3	2	CC-L14 / SEC
9	CS386	Cyber Security Lab	0	0	3	2	CC-L15 / 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	1	0	4	GE9
2	CS401	Internet of Things	3	0	0	3	C22
3	CS403	Soft Computing Techniques	3	0	0	3	C23
4	CS405	Machine Learning	2	0	0	2	C24 / SEC
5		Elective 5	3	0	0	3	E5 / DSE
6	CS481	Internet of Things Lab	0	0	3	2	CC-L16 / DSE
7	CS491	Minor Project	0	0	6	3	MP1 / E
8	CS493	Industrial Training	0	0	10	5	IT1 / E
9	GP	General Proficiency	Non Credit				
Total Hours and Credits			14	1	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 specialization 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.

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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 Vision	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 Systems	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
26	CS417	Data Science Basics and Visualization	3	0	0	3	E5

CS Computer Science

CC Core Course from USICT for Type of Course

GE General Elective from related discipline of other Deptt./School

GE L General Elective Lab from related discipline of other Deptt./School

OE Open Elective from other discipline of other Deptt./School

AECC Ability Enhancement Compulsary Course

DSE Discipline Specific Course

SEC Skill Enhancement Course

E Elective from USICT

CC-L Core Course Lab from USICT

IT1 Industrial Training

MP Minor / Major Project

S Seminar

I Internship