

**UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY**

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAMME STRUCTURE

**B.TECH. INFORMATION TECHNOLOGY
2021-2025**



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

SEMESTER I

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	CS101	Fundamentals of Computer Programming	3	1	0	4	CC1 / FC
2	MA101	Engineering Mathematics-I	3	1	0	4	GE1
3	EE102	Basic Electrical Engineering	3	1	0	4	GE2
4	ME101	Engineering Mechanics	3	1	0	4	GE3
5	ES101	Environmental Studies	3	1	0	4	OE1 / AECC
6	EN151	Language Lab	0	0	2	1	OE L1 / AECC
7	CS181	Computer Programming Lab	0	0	2	1	CC-L1 / SEC
8	EE104	Basic Electrical Engineering Lab	0	0	2	1	GE-L1
9	ME102	Workshop Practice	1	0	2	2	GE-L2 / 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	IT102	Object-Oriented Programming	3	1	0	4	CC2 / SEC
2	IT104	AI Enabled Information Technology	2	0	0	2	CC3 / FC
3	MA102	Engineering Mathematics-II	3	1	0	4	GE4
4	PH102	Engineering Physics	3	1	0	4	GE5
5	EC101	Basic Electronics Engineering	3	1	0	4	GE6
6	EN101	English Proficiency	2	0	0	2	OE2 / AECC
7	CE103	Engineering Graphics	1	0	2	2	GE-L3
8	IT181	Object-Oriented Programming Lab	0	0	2	1	CC-L2 / SEC
9	PH104	Engineering Physics Lab	0	0	2	1	GE-L4
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	IT201	Animation and Computer Graphics	3	0	0	3	CC4
2	IT203	Operating System	3	0	0	3	CC5
3	IT205	Software Engineering	3	0	0	3	CC6 / SEC
4	IT207	System Design & Analysis Techniques	3	0	0	3	CC7
5	IT209	Web Technologies	3	0	0	3	CC8
6	MA201	Engineering Mathematics-III	3	1	0	4	GE7
7	IT281	Animation & Computer Graphics Lab	0	0	3	2	CC-L3
8	IT283	Operating System Data Structures Lab	0	0	3	2	CC-L4 / SEC
9	IT285	Web Technologies Lab I	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	IT202	Data Structure	3	0	0	3	CC9
2	IT204	Database Management System	3	0	0	3	CC10
3	IT206	Web Development (PHP)	3	0	0	3	CC11 / SEC
4	IT208	Discrete Structure	3	0	0	3	CC12
5	IT210	Fundamentals of Digital Electronics Circuits	3	0	0	3	CC13
6	IT212	Digital Communication & Coding	2	0	0	2	CC14
7	IT282	Data Structure Lab	0	0	3	2	CC-L6
8	IT284	Database Management System Lab	0	0	3	2	CC-L7 / SEC
9	IT286	Web Development (PHP) Lab	0	0	3	2	CC-L8 / SEC
10	IT288	Digital Electronics Circuits Lab	0	0	3	2	CC-L9
11	GP	General Proficiency	Non Credit				
Total Hours and Credits			17	0	12	25	

SEMESTER V

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	IT301	Theory of Automata	3	0	0	3	CC17
2	IT303	Computer Networks	3	0	0	3	CC18
3	IT305	Compiler Design	3	1	0	4	CC19
4	IT307	Soft Computing Techniques	3	0	0	3	CC20 / SEC
5		Elective 1	3	0	0	3	E1 / DSE
6		Elective 2	3	0	0	3	E2 / DSE
7	IT381	Computer Networks Lab	0	0	3	2	CC-L10
8	IT383	Compiler Design Lab	0	0	3	2	CC-L11
9	IT385	Soft Computing Techniques 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	IT302	Cloud Computing	3	0	0	3	CC21
2	IT304	Algorithm Design & Analysis	3	0	0	3	CC22
3	IT306	Computer Organization	3	0	0	3	CC23
4	IT308	Information and Network Security	3	1	0	4	CC24
5		Elective 3	3	0	0	3	E3 / DSE
6		Elective 4	3	0	0	3	E4 / DSE
7	IT382	Cloud Computing Lab	0	0	3	2	CC-L13 / SEC
8	IT384	Algorithm Design & Analysis Lab	0	0	3	2	CC-L14/ SEC
9	IT386	Information & Network Security Lab	0	0	3	2	CC-L15
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	GE8
2	IT401	Sensor Networks and IoT	3	0	0	3	CC25
3	IT403	Machine Learning	3	0	0	3	CC26
4	IT405	Big Data Analytics	2	0	0	2	CC27 / SEC
5		Elective 5	3	0	0	3	E5 / DSE
6	IT481	Sensor Networks and IoT Lab	0	0	3	2	CC-L16
7	IT491	Minor Project	0	0	6	3	MP1 / E
8	IT493	Industrial Training	0	0	10	5	IT1 / E
9	GP	General Proficiency	Non Credit				
Total Hours and Credits			14	1	19	25	

SEMESTER VIII

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	IT490	Seminar	0	0	3	2	S / E
2	IT492	Major Project	0	0	16	8	MP2 / E
3	IT494	Intenship	0	0	30	15	I / E
4	GP	General Proficiency	Non Credit				
Total Hours and Credits			0	0	49	25	

GRAND TOTAL OF CREDITS = 200

In the **Seminar**, student need to study and present individually, on latest research paper of their specialized area and It will be evaluated as per University Examination Rules.

The **Internship** in Industry will be done by candidate individually during the 8th semester and it will be for a minimum of 4 (-6) months. It will be evaluated as per University Examination Rules.

Minor and Major Project will be in a group and It will be evaluated as per University Examination Rules.

USICT will provide a mentor/supervisor for industrial training, seminar, internship, minor and major projects.

ELECTIVES FROM DCSE

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	IT309	IT Forensics	3	0	0	3	E1
2	IT311	Advanced Communication Systems	3	0	0	3	E1
3	IT313	Bio-Informatics	3	0	0	3	E1
4	IT315	Computer Based Numerical & Statistical Techniques	3	0	0	3	E1
5	IT317	Data Compression	3	0	0	3	E2
6	IT319	Software Project Management	3	0	0	3	E2
7	IT321	Information Retrieval System	3	0	0	3	E2
8	IT323	Andriod	3	0	0	3	E2
9	IT310	Digital Image Processing	3	0	0	3	E3
10	IT312	Distributed Data Bases	3	0	0	3	E3
11	IT314	Expert Systems	3	0	0	3	E3
12	IT316	High Speed Networks	3	0	0	3	E3
13	IT318	Robotics	3	0	0	3	E4
14	IT320	Management Information System	3	0	0	3	E4
15	IT322	Evolutionary Computation	3	0	0	3	E4
16	IT324	Information Retrieval and Management	3	0	0	3	E4
17	IT407	Graph Theory and Algorithms	3	0	0	3	E5
18	IT409	Mobile Computing	3	0	0	3	E5
19	IT411	Data Warehousing and Data Mining	3	0	0	3	E5
20	IT413	Optimization Techniques	3	0	0	3	E5

IT Information Technology

CC Core Course from USICT

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