UNIVERSITY SCHOOL
OF
INFORMATION AND COMMUNICATION TECHNOLOGY

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

PROGRAMME STRUCTURE

MASTER OF COMPUTER APPLICATIONS (MCA)
2 YEAR PROGRAMME
2020-22

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

Passed B.Sc/ B.Com/ B.A with Mathematics at 10+2 level or at Graduation level with having at least 50% marks (45% for SC/ST candidates of Haryana only) in aggregate, along with the students admitted with this eligibility will have to simultaneously undertake additional *bridge course as prescribed by the University during the first semester.

Note: * It is compulsory for each student to pass out bridge course (three additional theory papers and one practical as prescribed in scheme of examination of bridge course) as per University norms during the 1st year of MCA-2 year course and the degree will be awarded after the completion of bridge course. However, these papers under bridge course will be taught only in the 1st semester of the course.

OR

Passed BCA/B.Sc.(Hons.)Computer Science/ B.E. or B.Tech.(CSE/IT)/ B.Voc.(Software Development/IT) or an

equivalent degree with having at least 50% marks (45% for SC/ST candidates of Haryana only) in aggregate.

BRIDGE COURSE

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA001	Computer Fundamental and Programming Concepts	3	0	0	3	BC1
2	MCA003	Introduction to Internet Technology	3	0	0	3	BC2
3	MCA005	Fundamental of Operating Systems	3	0	0	3	BC3
4	MCA081	Operating System Lab	0	0	3	2	BC-L1
5	MCA083	Internet Technology Lab	0	0	3	2	BC-L2
		Total Hours and Credits	**9**	**0**	**6**	**13**	

SEMESTER I

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA101	JAVA Programming	3	0	0	3	CC1 /SEC
2	MCA103	Software Engineering	3	0	0	3	CC2
3	MCA105	Data Structure and Algorithms	3	0	0	3	CC3 / SEC
4	MCA107	Data Base Management System	3	0	0	3	CC4
5	MCA109	Theory of Automata	3	0	0	3	CC5
6	MCA111	Analysis and Design of Algorithm	3	0	0	3	CC6
7	MCA113	Introduction to Artificial Intellegence	3	0	0	3	CC7
8	MCA181	JAVA Programming Lab	0	0	3	2	CC-L1 / SEC
9	MCA183	Data Base Management System Lab	0	0	3	2	CC-L2 / SEC
10	GP	General Proficiency		Non Credit			
		Total Hours and Credits	**21**	**0**	**6**	**25**	

SEMESTER II

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA102	Soft Computing Techniques	3	0	0	3	CC8
2	MCA104	Phython	3	0	0	3	CC9
3	MCA106	Compiler Design	3	0	0	3	CC10
4	MCA108	Software Reliability	3	0	0	3	CC11
5		Elective-1	3	0	0	3	E1 / DSE
6		Elective-2	3	0	0	3	E2 / DSE
7	MCA182	Phython Lab	0	0	3	2	CC-L3 / SEC
8	MCA192	Minor Project	0	0	10	5	MP1 / E
9	GP	General Proficiency	Non Credit				
		Total Hours and Credits	18	0	13	25	

SEMESTER III

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA201	Big Data Analytics	3	0	0	3	CC12 / SEC
2	MCA203	Machine Learning	3	0	0	3	CC13
3	MCA205	Information Security	3	0	0	3	CC14
4		Elective-3	3	0	0	3	CC15
5		Elective-4	3	0	0	3	CC16
6	EN532	Fundamental of Language Science	3	0	0	3	OE1 / AECC
7	ES401	Fundamental of Environmental Science	3	0	0	3	OE2 / AECC
8	MCA281	Big Data Analytics Lab	0	0	3	2	CC-L5 / SEC
9	MCA283	Machine learning Lab	0	0	3	2	CC-L5 / SEC
10	GP	General Proficiency	Non Credit				
		Total Hours and Credits	21	0	6	25	

SEMESTER IV

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA290	Seminar	0	0	3	2	S / E
2	MCA292	Major Project	0	0	20	10	MP2 /E
3	MCA294	Intenship	0	0	32	16	I / E
4	GP	General Proficiency	Non Credit				
		Total Hours and Credits	0	0	55	28	

GRAND TOTAL OF CREDITS   =   103

ELECTIVES FROM DCSE

S.No.	Course Code	Course Name	L	T	P	Credits	Types
1	MCA110	Computer Organistaion and Architecture	3	0	0	3	E1
2	MCA112	Software Project Management	3	0	0	3	E1
3	MCA114	Computer Graphics & Animation Modeling	3	0	0	3	E1
4	MCA116	Software Architecture and Design	3	0	0	3	E1
5	MCA118	Object Oriented Analysis and Design	3	0	0	3	E1
6	MCA120	Data Communication and Networks	3	0	0	3	E2
7	MCA122	Expert System	3	0	0	3	E2
8	MCA124	Evolutionary Computing	3	0	0	3	E2
9	MCA126	Knowledge Engineering	3	0	0	3	E2
10	MCA128	Fuzzy Logic	3	0	0	3	E2
11	MCA207	Internet of Things	3	0	0	3	E3
12	MCA209	Digital Image Processing	3	0	0	3	E3
13	MCA211	Pattern Matching	3	0	0	3	E3
14	MCA213	Neural Network	3	0	0	3	E3
15	MCA215	Natural Language Processing	3	0	0	3	E3
16	MCA217	Blockchain Fundamentals	3	0	0	3	E4
17	MCA219	Computer Vision	3	0	0	3	E4
18	MCA221	Data Science	3	0	0	3	E4
19	MCA223	Cloud Computing	3	0	0	3	E4
20	MCA235	Next Generation Network	3	0	0	3	E4

Swayam/NPTEL courses will also be offered as **Discipline Specific Elective** during the II and III semester and Swayam/NPTEL courses list will be provided by the deptt. OR if USICT will offer the course as an Discipline Specific Elective, students will complete it through regular class. It will be evaluated as per University Examination Rules.

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 4th 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 seminar, internship, minor and major projects.

Master of Computer Applications (MCA)

MCA Master of Computer Applications

CC   Core Course from USICT

FC   Foundation Course

CC-L Core Course Lab from USICT

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

AECC Ability Enhancement Compulsary Course

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

BC   Bridge Course

SEC Skill Enhancement Course

DSE Discipline Specific Course

OE   Open Elective

MP1 Minor Project

MP2 Major Project

S   Seminar

I   Industrial Training / Internship

BC-L Bridge Course Lab