

Department of Computer Science & Engineering

Revised Curriculum for BTech in Computer Science and Engineering (2010 Admission onwards)

Semester 1

S. No.	Code	Title	L	T	P	C	Category
1	MA1001	Mathematics I	3	1	0	3	BS
2	PH1001/ CY1001	Physics/Chemistry	3	0	0	3	BS
3	MS1001/ EE1001	Professional Communication/Electrical Sciences	3	0	0	3	HL/ES
4	ZZ1001/ ZZ1002	Engineering Mechanics/Engineering Graphics	3/1	1/0	0/3	3	ES/TA
5	CS1001/ ZZ1004	Foundations of Computing /Computer Programming	2	0	0	2	PT/ES
6	ZZ1091/ ZZ1092	Workshop I/Workshop II	0	0	3	2	TA
7	PH1091/ PY1094	Physics/Chemistry Laboratory	0	0	2	1	BS
8	ZZ1094/ ZZ1093/ ZZ1095	Ph. Edn (1 Cr), Value Edn (1 Cr), NSS (1 Cr)	0	0	3*	3	OT
						Total Credits	20

* Three OT courses of one credit to be credited within the first four semesters.

Semester 2

S. No.	Code	Title	L	T	P	C	Category
1	MA1002	Mathematics II	3	1	0	3	BS
2	CY1001/ PH1001	Chemistry/Physics	3	0	0	3	BS
3	EE1001/ MS1001	Electrical Sciences/Professional Communication	3	0	0	3	ES/HL
4	ZZ1002/ ZZ1001	Engineering Graphics/Engineering Mechanics	1/3	0/1	3/0	3	TA/ES
5	ZZ1004/ CS1001	Computer Programming/Foundations of Computing	2	0	0	2	ES/PT
6	PY1094/ PH1091	Chemistry/Physics Laboratory	0	0	2	1	BS
7	ZZ1092/ ZZ1091	Workshop II/Workshop I	0	0	3	2	TA
						Total Credits	17

Semester 3

S. No.	Code	Title	L	T	P	C	Category
1	MA2001	Mathematics III	3	1	0	3	BS
2	CS2001	Logic Design	3	0	2	4	PT
3	CS2002	Foundations of Programming	4	0	0	4	PT
4	EC2014	Signals and Systems	3	0	0	3	PT
5	CS2091	Logic Design Laboratory	1	0	3	3	PT
6	CS2092	Programming Laboratory	1	0	3	3	PT
						Total Credits	20

Semester 4

S. No.	Code	Title	L	T	P	C	Category
1	MA2002	Mathematics IV	3	1	0	3	BS
2	CS2004	Computer Organization	3	0	2	4	PT
3	CS2005	Data Structures and Algorithms	4	0	0	4	PT
4	CS2006	Discrete Structures	4	0	0	4	PT
5	CS2093	Hardware Laboratory	1	0	3	3	PT
6	CS2094	Data Structures Laboratory	1	0	3	3	PT
						Total Credits	21

Semester 5

S. No.	Code	Title	L	T	P	C	Category
1	CS3001	Theory of Computation	4	0	0	4	PT
2	CS3002	Database Management Systems	3	0	2	4	PT
3	CS3003	Operating Systems	3	0	2	4	PT
4		Elective I				4	PT
5		Elective II				3/4	PT
6		Laboratory Elective	1	0	3	3	PT
		Total Credits				22-23	

Semester 6

S. No.	Code	Title	L	T	P	C	Category
1	CS3004	Software Engineering	3	0	2	4	PT
2	CS3005	Compiler Design	3	0	2	4	PT
3	CS3006	Computer Networks	3	0	2	4	PT
4		Elective III				4	PT
5		Elective IV				3/4	PT
6		Laboratory Elective	1	0	3	3	PT
		Total Credits				22-23	

Semester 7

S. No.	Code	Title	L	T	P	C	Category
1	CS4001	Environmental Studies	3	0	0	3	OT
2	MS4003	Economics	3	0	0	3	HL
3	ME4104	Principles of Management	3	0	0	3	HL
4		Elective V				3/4	PT
5		Elective VI (Global)				3	GE
6	CS4098	Seminar	0	0	2	1	PT
7	CS4089	Project	0	0	6	3	PT
		Total Credits				19-20	

Semester 8

S. No.	Code	Title	L	T	P	C	Category
1		Elective VII				4	PT
2		Elective VIII				4	PT
3		Elective IX				3/4	PT
4		Elective X (Global)				3	GE
5	CS4090	Project	0	0	10	5	PT
		Total Credits				19-20	

LIST OF ELECTIVES

Theory Electives:

S. No.	Code	Title	L	T	P	C	Category
1	CS4021	Number Theory and Cryptography	3	0	2	4	PT
2	CS4022	Principles of Programming Languages	3	0	2	4	PT
3	CS4023	Computational Intelligence	3	0	2	4	PT
4	CS4024	Information Theory	4	0	0	4	PT
5	CS4025	Graph Theory and Combinatorics	4	0	0	4	PT
6	CS4026	Combinatorial Algorithms	3	0	2	4	PT
7	CS4027	Topics in Algorithms	4	0	0	4	PT
8	CS4028	Quantum Computation	4	0	0	4	PT
9	CS4029	Topics in Theory of Computation	4	0	0	4	PT
10	CS4030	Computational Complexity	4	0	0	4	PT
11	CS4031	Computational Algebra	3	0	2	4	PT
12	CS4032	Computer Architecture	3	0	2	4	PT
13	CS4033	Distributed Computing	3	0	2	4	PT
14	CS4034	Middleware Technologies	3	0	2	4	PT
15	CS4035	Computer Security	3	0	2	4	PT
16	CS4036	Advanced Database Management Systems	3	0	2	4	PT
17	CS4037	Cloud Computing	3	0	2	4	PT
18	CS4038	Data Mining	3	0	2	4	PT
19	CS4039	Multi Agent Systems	3	0	2	4	PT
20	CS4040	Bioinformatics	3	0	2	4	PT
21	CS4041	Natural Language Processing	3	0	2	4	PT
22	CS4042	Web Programming	3	0	2	4	PT
23	CS4043	Image Processing	3	0	2	4	PT
24	CS4044	Pattern Recognition	3	0	2	4	PT
25	CS4045	Medical Image Processing	3	0	2	4	PT
26	CS4046	Computer Vision	3	0	2	4	PT
27	CS4047	Computer Graphics	3	0	2	4	PT
28	CS4048	Topics in Compilers	3	0	2	4	PT
29	CS4049	Advanced Computer Networks	3	0	2	4	PT
30	CS4050	Design and Analysis of Algorithms	3	0	2	4	PT
31	CS4051	Coding Theory	3	0	2	4	PT
32	CS4052	Logic for Computer Science	3	0	2	4	PT

Laboratory Electives:

S. No.	Code	Title	L	T	P	C	Category
1	CS3091	Compiler Laboratory	1	0	3	3	PT
2	CS3092	Operating Systems Laboratory	1	0	3	3	PT
3	CS3093	Networks Laboratory	1	0	3	3	PT
4	CS3094	Programming Languages Laboratory	1	0	3	3	PT
5	CS3095	Database Management Systems Laboratory	1	0	3	3	PT
6	CS3096	Computational Intelligence Laboratory	1	0	3	3	PT
7	CS3097	Web Programming Laboratory	1	0	3	3	PT
8	CS4091	Biocomputing Laboratory	1	0	3	3	PT
9	CS4092	Data Mining Laboratory	1	0	3	3	PT
10	CS4093	Image Processing Laboratory	1	0	3	3	PT
11	CS4094	Computer Vision Laboratory	1	0	3	3	PT
12	CS4095	Computer Graphics Laboratory	1	0	3	3	PT
13	CS4096	Software Engineering Laboratory	1	0	3	3	PT
14	CS4097	Object Oriented Programming Laboratory	1	0	3	3	PT

Comments:

1. Since the credits for elective courses may vary, the total credits acquired in a semester can vary. However a student is required to complete all core courses stipulated in the curriculum under each category and also complete a minimum of 160 credits for the award of B.Tech degree.
2. Elective courses may be credited from the list of elective courses and laboratory elective courses . Laboratory electives will be treated as normal elective courses and hence may be credited as elective courses. However as laboratory electives, students are required to credit courses only from the list of courses specifically mentioned in the curriculum as laboratory electives.