

Dual Degree (B.Tech & M.Tech) Curriculum
Computer Science and Engineering
For B.Tech 2017 Batch

Semester I

S.No	Course No	Course Name	Category	L-T-P-C
1	CS1100	Computational Engineering	BET	2-0-3-4
2	CY1010	Chemistry – I (Physical and Theoretical)	SCY	2-1-0-3
3	ID1100	Concepts in Engineering and Design	BET	3-0-0-3
4	MA1010	Mathematics-I	SMA	3-1-0-4
5	ME1120	Engineering Drawing	BES	1-0-3-3
6	PH1010	Physics-I	SPH	2-1-0-3
7	PH1030	Physics Laboratory	SPH	0-0-3-2
8	WS1010	Workshop-I	BES	0-0-3-2
Total				24

Semester II

S.No	Course No	Course Name	Category	L-T-P-C
1	AM1100	Engineering Mechanics	BET	3-1-0-4
2	CY1020	Chemistry – II (Organic and Inorganic)	SCY	2-1-0-3
3	CY1030	Chemistry Laboratory	SCY	0-0-3-2
4	GN1100	Life skills	BES	2-0-0-2
5	ID1200	Ecology and Environment	BET	2-0-0-2
6	MA1020	Mathematics-II	SMA	3-1-0-4
7	ME1100	Thermodynamics	BET	2-1-0-3
8	PH1020	Physics – II	SPH	2-1-0-3
9	WS1020	Workshop – II	BES	0-0-3-2
Total				25

Semester III

S.No	Course No	Course Name	Category	L-T-P-C
1	CS2100	Discrete Mathematics for Computer Science	PMT	3-0-0-3
2	CS2110	Computer Programming Laboratory	PML	0-0-3-2
3	EE2001	Digital Systems	PMT	3-1-0-4
4	EE2702	Digital Circuits Laboratory	PML	0-0-3-2
5	EE1100	Basic Electrical Engineering	BET	3-0-0-3
6	BT1010	Life Sciences	SLS	2-0-0-2
7	MAE1	Mathematics Elective-1	SMA	3-0-0-3
8	HSE1	Humanities Elective-1	HSS	3-0-0-3
Total				22

Semester IV

S.No	Course No	Course Name	Cat	L-T-P-C
1	CS2200	Theory of Computation	PMT	3-0-0-3
2	CS2600	Computer Organization	PMT	3-0-0-3
3	CS2610	Assembly Language Programming Laboratory	PML	0-0-3-2
4	CS2800	Data structures and Algorithms	PMT	3-1-0-4
5	CS2810	Advanced Programming Laboratory	PML	0-0-3-2
6	CS3100	Paradigms of Programming	PMT	3-1-0-4
7	MAE2	Mathematics Elective-2	SMA	3-0-0-3
8	HSE2	Humanities Elective-2	HSS	3-0-0-3
Total				24

Semester V

S.No	Course No	Course Name	Category	L-T-P-C
1	CS3400	Software Engineering	PMT	3-0-0-3
2	CS3300	Compiler Design	PMT	3-0-0-3
3	CS3310	Compiler Design Laboratory	PML	0-0-3-2
4	CS3500	Operating Systems	PMT	3-0-0-3
5	CS3510	Operating Systems Laboratory	PML	0-0-3-2
6	CS3109	Machine Learning	PMT	2-0-3-4
7	CS3101	Design and Analysis of Algorithms	PMT	3-0-0-3
8	FRE1	Free Elective-1	FRE	3-0-0-3
Total				23

Semester VI

S.No	Course No	Course Name	Category	L-T-P-C
1	CS3200	Computer Networks	PMT	3-0-0-3
2	CS3210	Computer Networks Laboratory	PML	0-0-3-2
3	CS3800	Artificial Intelligence	PMT	3-0-0-3
4	CS3700	Database Systems	PMT	3-1-0-4
5	CS3410	Software Engineering Laboratory	PML	0-0-3-2
6	DPE1	Department Elective-1	PMT	3-0-0-3
7	FRE2	Free Elective-2	FRE	3-0-0-3
8	FRE3	Free Elective-3	FRE	3-0-0-3
9	CS3660	Industrial/ Research Internship	PIT	- - - 2
Total				25

Semester – VII

S.No	Course No	Course Name	Category	L-T-P-C
1.	CS4101	Computer System Design	PMT	3-0-0-3
2.	CS5105	Parallel Computing	PMT	3-0-0-3
3.	CS5107	Computational Methods in Optimization	PMT	3-0-0-3
4.	CS5109	Data Science and Engineering	PMT	3-0-0-3
5.	DPE2	Department Elective 2	PMT	3-0-0-3
6.	CS4191	Computer System Design Laboratory	PML	0-0-3-2
7.	CS5195	Data Science Programming Laboratory	PML	0-0-3-2
8.	IL4101	Industrial Lecture	PIL	1-0-0-1
Total				20

Semester – VIII

S.No	Course No	Course Name	Category	L-T-P-C
1.	CS5204	Distributed Systems	PMT	3-0-0-3
2.	CS5223	Deep Learning	PMT	3-0-0-3
3.	DPE3	Department Elective 3	PMT	3-0-0-3
4.	DPE4	Department Elective 4	PMT	3-0-0-3
5.	HSE3	Humanities Elective 3	HSS	3-0-0-3
6.	HS4202	Professional Ethics	HPE	2-0-0-2
Total				17

Semester – IX

S.No	Course No	Course Name	Category	L-T-P-C
1.	FRE4	Free Elective-4	FRE	3-0-0-3
2.	CS6150	Project Phase I	PMP	- - - 10
3.	CS6110	Seminar	PMT	- - - 1
Total				14

Semester - X

S.No	Course No	Course Name	Category	L-T-P-C
1.	CS6250	Project Phase II	PMP	- - - 15
Total				15

Total - 209

Department Electives:

1. CS5021 Advanced Computer Networks
2. CS5022 Algorithmic Engineering
3. CS5024 Data Science for Software Engineering
4. CS5025 Predictive Data Modelling
5. CS5221 GPU Computing
6. CS5224 Reinforcement Learning
7. CS5225 Stochastic Decision Processes
8. CS5XXX Randomized Algorithms
9. CS5XXX Algorithms for Big Data
10. CS5XXX Testing and Verification of VLSI Systems