SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
B.Tech (Computer Science and Engineering-Specialisation in Data Science) Curriculum (AY: 2019 -20)

Sl. NO	Category	Total No. of Credits
1	University Core (UC)	53
2	Programme Core (PC)	65
3	University Elective (UE)	12
4	Programme Elective (PE)	30
	Total	160

University Core [53 Credits]

L – Lecture T- Tutorial P- Practical J- Project   C- Credits
E Engineering S – Science H – Humanities M - Management

Sl.No	Course Code	Course Title	L	T	P	J	C	Pre-Req	Category
1	ENG1002	Effective English (Bridge Course)	0	0	4	0	Pass	-	H
2	ENG1011	English for Engineers	0	0	2	4	2	A Pass in VIT EPT or ENG1002	H
3	CHY1701	Engineering Chemistry	3	0	2	0	4	-	S
4	PHY1701	Engineering Physics	3	0	2	0	4	-	S
5	MAT1011	Calculus for Engineers	3	0	2	0	4	-	S
6	MAT2001	Statistics for Engineers	2	1	2	0	4	MAT1011	S
7	FLC	Foreign Language	2	0	0	0	2	-	H
8	HUM1021	Ethics and Values	1	0	0	4	2	-	H
9	CSE1001	Problem Solving and Programming	0	0	6	0	3	-	E
10	CSE1002	Problem Solving and Object Oriented Programming	0	0	6	0	3	-	E
11	MGT1022	Lean Startup Management	1	0	0	4	2	-	M
12	CSE3999	Technical Answers to Real Word Problems	1	0	0	8	2	-	E

Sl.No	Course Code	Course Title	L	T	P	J	C	Pre-Req	Category
13	CSE3099	Industrial Internship					1	-	E
14	CSE4099	Capstone Project					12	-	E
15	CSE4098	Comprehensive Examination	0	0	0	0	1	-	E
16	-	Soft Skills (6 courses)					6	-	H
17	CHY1002	Environmental Science	3	0	0	0	0	-	S
18	PHY999	Introduction to Innovative Projects	1	0	0	4	1	-	S
19	EXC	Co/Extracurricular Activity	0	0	0	0	0	-	M
		Total	**53 Credits**						

*Soft skill 6 credits – one credit with 3 Lecture hours per semester

University Elective [12 Credits]

Course Title
University Elective – I
University Elective – II
University Elective – III
University Elective – IV

Program Core (65 credits)

Sl.No	Course Code	Course Title	L	T	P	J	C	Pre-Req	Category
1	MAT2002	Applications of Differential and Difference Equations	3	0	2	0	4	MAT1011	S
2	MAT1014	Discrete Mathematics and Graph Theory	3	1	0	0	4	-	S
3	MAT3004	Applied Linear Algebra	3	1	0	0	4	MAT2002	S
4	EEE1001	Basic Electrical and Electronics Engineering	2	0	2	0	3	-	E
5	CSE1003	Digital Logic and Design	3	0	2	0	4	-	E
6	CSE2001	Computer Architecture and	3	0	0	0	3	-	E

		Organization								
7	CSE2002	Theory of Computation and Compiler Design	4	0	0	0	4	-	E
8	CSE2003	Data Structures and Algorithms	3	0	2	0	4	-	E
9	CSE1004	Network and Communication	3	0	2	0	4	-	E
10	CSE2004	Database Management System	3	0	2	0	4	-	E
11	CSE2005	Operating Systems	2	0	2	4	4	-	E
12	CSE3002	Internet and Web Programming	3	0	2	0	4	CSE2004	E
13	CSE3020	Data Visualization	3	0	2	0	4	-	E
14	CSE1007	Java Programming	3	0	2	0	4	-	E
15	BCD4XXX	Mathematical Modeling for Data Science	3	0	2	0	4	-	E
16	BCD2XXX	Programming for Data Science	3	0	2	0	4	-	E
17	BCD3XXX	Predictive Analytics	2	0	0	4	3	-	E
		Total	*65 Credits*						

LIST OF PROGRAM ELECTIVES [30 Credits]

Sl.No	Course Code	Course Title	L	T	P	J	C	Pre-Req	Category
1.	CSE1006	Blockchain and Cryptocurrency Technologies	3	0	0	0	3	-	E
2.	CSE3001	Software Engineering	2	0	2	4	4	-	E
3.	CSE3009	Internet of Things	3	0	0	4	4	-	E
4.	CSE3011	Robotics and its Applications	3	0	0	4	4	-	E
5.	CSE3013	Artificial Intelligence	3	0	0	4	4	-	E
6.	CSE3016	Graphics and Multimedia Systems	2	0	2	4	4	-	E
7.	CSE3019	Data Mining	2	0	2	4	4	-	E
8.	CSE4001	Parallel and Distributed Computing	2	0	2	4	4	-	E

#	Code	Title	L	T	P	J	C		Type
9.	CSE4003	Cyber Security	3	0	0	4	4	-	E
10.	CSE4019	Image Processing	3	0	0	4	4	-	E
11.	CSE4020	Machine Learning	2	0	2	4	4	-	E
12.	CSE4022	Natural Language Processing	3	0	0	4	4	-	E
13.	CSE2XXX	Microprocessor and Microcontrollers	3	0	2	0	4	-	E
14.	CSE2010	Advanced C Programming	2	0	2	0	3	-	E
15.	CSE3XXX	Mobile Computing	3	0	0	4	4	-	E
16.	CSE3XXX	Soft Computing	2	0	2	4	4	-	E
17.	CSE3XXX	Software Quality and Testing	3	0	0	0	3	-	E
18.	CSE3035	Principles of Cloud Computing	3	0	2	0	4	-	E
19.	CSE3XXX	Deep Learning	3	0	0	4	4	-	E
20.	CSE4XXX	Advanced Java Programming	3	0	2	0	4	-	E
21.	CSE4XXX	Open Source Programming	3	0	2	0	4	-	E
22.	BCD2XXX	Bayesian Data Analysis	3	0	0	4	4	-	E
23.	BCD2XXX	Big Data Analytics	3	0	0	4	4	-	E
24.	BCD2XXX	Business Intelligence and Analytics	3	0	0	0	3	-	E
25.	BCD3XXX	Cognitive Systems	3	0	0	4	4	-	E
26.	BCD3XXX	Data Modeling and Simulation	3	0	0	0	3	-	E
27.	BCD4XXX	Decision Support Systems and Intelligent Systems	3	0	0	0	3	-	E
28.	BCD4XXX	Information Extraction and Retrieval	3	0	0	0	3	-	E
29.	BCD4XXX	Intelligent Database System	3	0	0	4	4	-	E
30.	BCD4XXX	Knowledge Representation and Reasoning	3	0	0	4	4	-	E
31.	BCD4XXX	Nature Inspired computing for Data Science	3	0	0	4	4	-	E
32.	BCD4XXX	Time Series Analysis and Forecasting	3	0	0	0	3	-	E