SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

M.Tech Computer Science and Engineering 5 years Integrated (in collaboration with Virtusa)

Curriculum – AY (2019 – 2020)

Sl.NO	Category	Total No. of Credits (2019 Batch)
1	University Core (UC)	61
2	Programme Core (PC)	76
3	University Elective (UE)	12
4	Programme Elective (PE)	71
	Total	**220**

University Core [61 Credits]

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

Sl.No	Subject Code	Course Title	Course Type	L	T	P	J	C	Category	Pre-Req	Course Equivalence
1	CHY1002	Environmental Sciences	Theory	0	0	0	0	0	NIL	-	NIL
2	CHY1701	Engineering Chemistry	Embedded - Theory & Lab	3	0	2	0	4	NIL	-	NIL
3	CSE1001	Problem Solving and Programming	Lab	0	0	6	0	3	NIL	-	NIL
4	CSE1002	Problem Solving and Object Oriented Programming	Lab	0	0	6	0	3	NIL	-	NIL
5	ENG1011	English for Engineers	Lab	0	0	4	0	2	NIL	-	NIL
6	HUM1021	Ethics and Values	Theory	2	0	0	0	2	NIL	-	NIL
7	MAT1011	Calculus for Engineers	Embedded - Theory & Lab	3	0	2	0	4	NIL	-	NIL
8	MAT2001	Statistics for Engineers	Embedded - Theory & Lab	2	2	2	0	4	NIL	MAT1011	NIL
9	MGT1022	Lean Start-up Management	Embedded - Theory & Project	1	0	0	4	2	NIL	-	NIL
10	PHY1701	Engineering Physics	Embedded - Theory & Lab	3	0	2	0	4	NIL	-	NIL
11	PHY1999	Introduction to Innovative Projects	Embedded - Theory & Project	1	0	0	0	1	NIL	-	NIL
12	MIC3999	Technical Answers for Real World Problems (TARP)	Embedded - Theory & Project	1	0	0	8	2	NIL	PHY1999	NIL
13	MIC4098	Comprehensive Examination	Project	0	0	0	0	1	NIL	-	NIL
14	MIC4099	Co-op/Capstone Project	Project	0	0	0	0	18	NIL	-	NIL
15	MIC3099	Industrial Internship	Project	0	0	0	0	1	NIL		NIL
16	EXC4097	Co-Extra Curricular Basket	Basket	0	0	0	0	0	NIL		NIL
17	FLC4097	Foreign	Basket	0	0	0	0	2	NIL		NIL

18	STS5097	Soft Skills	Basket	0	0	0	0	8	NIL		NIL
19	ENG1002	Effective English (Bridge Course)	Theory	0	0	4	0	0	NIL		NIL
		Total	**Course Type**	**65 Credits**							

(Row above: "Language Course Basket" continues from previous page)

University Elective [12 Credits]

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

Program Core [76 credits]

Sl.No	Course Code	Course Title	L	T	P	J	C	Pre-Requisite	Category
1.	MAT1014	Discrete Mathematics and Graph Theory	3	1	0	0	4		S
2	MAT3004	Applied Linear Algebra	3	1	0	0	4	MAT2002	S
3	EEE1001	Basic Electrical and Electronics Engineering	2	0	2	0	3		E
4	CSE1003	Digital logic and Design	3	0	2	0	4		E
5	CSE2001	Computer Architecture and Organization	3	0	0	0	3		E
6	CSE2003	Data Structures and Algorithms	2	0	2	4	4		E

7	MIC2XXX	Advanced Algorithms	2	0	2	0	3		E
8	CSE2004	Database Management System	2	0	2	4	4		E
9	CSE3001	Software Engineering	2	0	2	4	4		E
10	CSE2002	Theory of Computation and Compiler Design	4	0	0	0	4		E
11	MAT2002	Applications of Differential and Difference Equations	3	0	2	0	4	MAT1011	S
12	CSE2005	Operating Systems	2	0	2	4	4		E
13	CSE2006	Microprocessor and Interfacing	2	0	2	4	4		E
14	CSE1004	Network and Communication	3	0	2	0	4		E
15	CSE1007	Java Programming	3	0	2	0	4		E
16	MIC3XXX	Artificial Intelligence and Expert Systems	3	0	0	4	4		E
17	MIC3XXX	Application Development and Deployment Architecture	2	0	2	0	3		E
18	MIC3XXX	Advanced Server Side Programming	2	0	2	0	3	CSE2004	E
19	MIC3XXX	Software Application Architecture	3	0	0	0	3		E
20	MIC3XXX	Front End Design and Testing	2	0	2	0	3		E
21	MIC3XXX	Machine Learning Techniques	2	0	2	0	3	CSE1001	E

Total   =   76 credits

LIST OF PROGRAM ELECTIVES [71 Credits]

Sl.No	Course Title	Course Title	L	T	P	J	C	Category
1.	MIC 3XXX	Internetworking with TCP/IP	3	0	0	0	3	E
2.	CSE4022	Natural Language Processing	3	0	0	4	4	E
3.	MIC3XXX	Logic and Combinatorics for Computer Science	3	0	0	0	3	E
4.	CSE3016	Graphics and Multimedia Systems	3	0	2	0	4	E
5.	MIC3XXX	Computer Oriented Numerical Methods	3	0	2	0	4	E
6.	MIC3XXX	Distributed Systems	3	0	2	0	4	E
7.	MIC3XXX	Text Mining	3	0	0	0	3	E
8.	CSE3009	Internet of Things	3	0	2	0	4	E
9.	MIC4XXX	Soft Computing Techniques	3	0	0	4	4	E
10.	MIC3XXX	Advanced Wireless Networks	3	0	2	0	4	E
11.	MIC4XXX	Augmented Reality and Virtual Reality	3	0	0	4	4	E
12.	CSE1006	Blockchain and cryptocurrency Technologies	3	0	0	4	4	E
13.	MIC3XXX	Quantum Computing Techniques	3	0	0	0	3	E
14.	MIC3XXX	Software verification and validation	3	0	0	0	3	E
15.	MIC3XXX	Advanced Computer Architecture	3	0	0	0	3	E
16.	MIC 2XXX	Advances in Pervasive Computing	3	0	0	0	3	E
17.	CSE3029	Game Programming	3	0	0	0	3	E
18.	MIC 3XXX	GPU Programming	3	0	0	0	3	E
19.	MIC3XXX	Advanced Data Compression Techniques	3	0	0	0	3	E
20.	MIC2XXX	Programming Paradigms	3	0	2	0	4	E
21.	CSE4003	Cyber Security	3	0	2	0	4	E
22.	MIC3XXX	Advanced Graph Algorithms	3	0	0	0	3	E
23.	MIC2XXX	Software Project Management	3	0	0	0	3	E
24.	CSE3011	Robotics and its Applications	3	0	0	0	3	E
25.	MIC2XXX	Mathematical Modeling and Simulation	3	0	0	0	3	E
26.	MIC3XXX	Data warehousing and Data Mining	3	0	2	0	4	E
27.	MIC2XXX	R Programming	2	0	2	0	3	E
28.	MIC2XXX	Foundations of Data Science	3	0	0	0	3	E
29.	CSE3020	Data Visualization	3	0	0	0	3	E
30.	MIC2XXX	Logic and Combinatorics for Computer	3	0	0	0	3	E

		Science						
31.	CSEXXX	Deep Learning	3	0	0	0	3	E
32.	MIC3XXX	Fault Tolerant Computing System	3	0	0	0	3	E
33.	CSE4019	Image Processing	3	0	2	0	4	E
34.	MIC3XXX	Cognitive Science and Decision Making	3	0	0	0	3	E
35.	CSE3021	Social and Information Networks	3	0	0	4	4	E