MARRI LAXMAN REDDY
INSTITUTE OF TECHNOLOGY AND MANAGEMENT
(AN AUTONOMOUS INSTITUTION)
(Approved by AICTE, New Delhi & Affiliated to JNTUH, Hyderabad)
Accredited by NBA and NAAC with 'A' Grade & Recognized Under Section2(f) & 12(B)of the UGC act,1956

B.Tech - COMPUTER SCIENCE AND ENGINEERING
COURSE STRUCTURE (R20)
Applicable From 2020-21 Admitted Batch
Structure Breakup

S. No	Category	Breakup of credits (Total 160 credits)
1	Humanities and Social Sciences including Management courses (HSMC)	10
2	Basic Sciences Courses (BS)	22
3	Engineering Sciences courses including Workshop, Drawing basics of electrical/mechanical/computer etc.(ES)	19
4	Professional Core courses (PC)	68
5	Professional Electives (PE)	18
6	Open Electives (OE)	9
7	Project work, Seminar and Internship in industry or elsewhere (PS)	14
8	Mandatory Courses	-
	TOTAL	160

I YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2010001	Engineering Mathematics - I	BS	3	1	0	4	30	70	100
2	2010008	Engineering Chemistry	BS	3	1	0	4	30	70	100
3	2010501	Programming for Problem Solving	ES	3	1	0	4	30	70	100
4	2010009	Communicative English	HSMC	2	0	0	2	30	70	100
5	2010073	Engineering Chemistry Lab	BS	0	0	3	1.5	30	70	100
6	2010074	Communicative English Lab	HSMC	0	0	2	1	30	70	100
7	2010571	Programming for Problem Solving Lab	ES	0	0	3	1.5	30	70	100
8	2010021	Environmental Science	MC	2	0	0	0	-	-	-
		Total Credits		13	3	8	18	210	490	700

I YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2020002	Engineering Mathematics - II	BS	3	1	0	4	30	70	100
2	2020006	Applied Physics	BS	3	1	0	4	30	70	100
3	2020502	Data Structures	ES	3	0	0	3	30	70	100
4	2020372	Engineering Workshop	ES	1	0	3	2.5	30	70	100
5	2020009	Engineering Drawing Practice	ES	1	0	4	3	30	70	100
6	2020071	Applied Physics Lab	BS	0	0	3	1.5	30	70	100
7	2020572	Data Structures Lab	ES	0	0	2	1	30	70	100
		Total Credits		11	2	12	19	210	490	700

II YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2033303	Database Management Systems	PC	3	0	0	3	30	70	100
2	2030010	Business Economics and Financial Analysis	HSMC	3	0	0	3	30	70	100
3	2030004	Probability And Statistics	BS	3	0	0	3	30	70	100
4	2033304	Digital Logic Design	PC	3	1	0	4	30	70	100
5	2033305	Python Programming	PC	3	0	0	3	30	70	100
6	2033373	Database Management Systems Lab	PC	0	0	3	1.5	30	70	100
7	2033374	IT Workshop Lab	PC	0	0	3	1.5	30	70	100
8	2033375	Python Programming Lab	PC	0	0	3	1.5	30	70	100
9	2030022	Gender Sensitization	MC	2	0	0	0	-	-	-
		Total Credits		17	1	9	20.5	240	560	800

II YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2043306	Discrete Mathematics	PC	3	1	0	4	30	70	100
2	2040201	Basic Electrical Engineering	ES	3	0	0	3	30	70	100
3	2043307	Computer Organization &Microprocessors	PC	3	1	0	4	30	70	100
4	2043308	Design and Analysis of Algorithms	PC	3	0	0	3	30	70	100
5	2043309	JAVA Programming	PC	3	0	0	3	30	70	100
6	2040271	Basic Electrical Engineering Lab	ES	0	0	2	1	30	70	100
7	2043376	Design and Analysis of Algorithms through Java Lab	PC	0	0	3	1.5	30	70	100
8	2043377	Computer Organization &Microprocessors Lab using MASAM	PC	0	0	2	1	30	70	100
9	2040023	Constitution of India	MC	2	0	0	0	-	-	-
		Total Credits		17	2	7	20.5	240	560	800

III YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2053310	Operating Systems	PC	3	0	0	3	30	70	100
2	2053311	Computer Networks	PC	3	0	0	3	30	70	100
3	2053312	Formal Languages and Automata Theory	PC	3	0	0	3	30	70	100
4	2053313	Software Engineering	PC	3	0	0	3	30	70	100
5		Professional Elective I	PE	3	0	0	3	30	70	100
6	2053378	Computer Networks Lab	PC	0	0	3	1.5	30	70	100
7	2053379	Operating System Lab	PC	0	0	3	1.5	30	70	100
8	2053380	Software Engineering Lab	PC	0	0	2	1	30	70	100
9	2053385	Internship*	PS	0	0	2	1	30	70	100
10	2020024	Intellectual Property Rights	MC	2	0	0	0	-	-	-
		Total Credits		**17**	**0**	**10**	**20**	**270**	**630**	**900**

III YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2063314	Data Mining	PC	3	0	0	3	30	70	100
2	2063315	Compiler Design	PC	3	0	0	3	30	70	100
3	2063316	Web Technologies	PC	3	0	0	3	30	70	100
4		Professional Elective II	PE	3	0	0	3	30	70	100
5		Open Elective I	OE	3	0	0	3	30	70	100
6	2063381	Data Mining Lab	PC	0	0	3	1.5	30	70	100
7	2063382	Web Technology Lab	PC	0	0	3	1.5	30	70	100
8	2060075	Advanced English Communication Lab	HSMC	0	0	2	1	30	70	100
9		Professional Ethics	MC	2	0	0	0	-	-	-
		Total Credits		**17**	**0**	**8**	**19**	**240**	**560**	**800**

*Students have to complete internship in II Year- II Semester Summer break, Evaluation is carried in III-I semester.

IV YEAR I SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1	2070011	Fundamentals of Management	HSMC	3	0	0	3	30	70	100
2	2073317	Internet of Things	PC	3	0	0	3	30	70	100
3	2073318	Machine Learning	PC	3	0	0	3	30	70	100
4		Professional Elective III	PE	3	0	0	3	30	70	100
5		Professional Elective IV	PE	3	0	0	3	30	70	100
6		Open Elective II	OE	3	0	0	3	30	70	100
7	2073383	Internet of Things Lab	PC	0	0	3	1.5	30	70	100
8	2073384	Machine Learning Lab	PC	0	0	3	1.5	30	70	100
9	2073386	Industry Oriented Mini Project**	PS	0	0	4	2	30	70	100
Total Credits				18	0	10	23	**270**	**630**	**900**

IV YEAR II SEMESTER

S. No.	Course Code	Course Title	Course Area	Hours Per Week			Credits	Scheme of Examination Maximum Marks		
				L	T	P		Internal (CIE)	External (SEE)	Total
1		Professional Elective V	PE	3	0	0	3	30	70	100
2		Professional Elective VI	PE	3	0	0	3	30	70	100
3		Open Elective III	OE	3	0	0	3	30	70	100
4	2083387	Technical Seminar	PS	0	0	2	1	30	70	100
5	2083388	Major Project	PS	0	0	20	10	30	70	100
Total Credits				9	0	22	20	**150**	**350**	**500**

**Students have to complete industry oriented mini project in III Year- II Semester Summer break, Evaluation is carried in IV-I semester.

PE I - Professional Elective I

S.No	Course Code	Course Title
1	2053341	Embedded Systems
2	2053342	Computer Graphics
3	2053343	Artificial Intelligence
4	2053344	Information Retrieval Systems

PE II - Professional Elective II

S.No	Course Code	Course Title
1	2063345	Linux Programming
2	2063346	Mobile Computing
3	2063347	Cryptography and Network Security
4	2063348	Software Project Management

PEIII – Professional Elective III

S.No	Course Code	Course Title
1	2073349	Wireless Sensor Networks
2	2073350	Design Thinking
3	2073351	Cyber Forensics
4	2073352	Natural Language Processing

PE IV - Professional Elective

S.No	Course Code	Course Title
1	2073353	Distributed System
2	2073354	Image Processing
3	2073355	Semantic Web
4	2033256	Data Analytics

PE V - Professional Elective V

S.No	Course Code	Course Title
1	2083357	Artificial Neural Networks
2	2083358	Deep Learning
3	2083359	Virtual Reality
4	2083360	Block Chain Technology

PE VI - Professional Elective VI

S.No	Course Code	Course Title
1	2083361	Robotics
2	2083362	Soft Computing
3	2083363	Web Services
4	2083364	Video Processing

Open Electives

S.No	Course Code	Course Title
1	Open Elective I	2063303- Java Programming
		2073304- Database Management System
2	Open Elective II	2083305- Data Analytics
		2083306-Python Programming
3	Open Elective III	2083307-Machine Learning
		2083308- Internet of Things