



**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 Section 2(f) & 12(B) of the UGC act, 1956

**B.Tech – Computer Science and Engineering (Cyber Security)**  
**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	-
	<b>TOTAL</b>	<b>160</b>

**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	2010006	Applied Physics	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	2010071	Applied Physics Lab	BS	0	0	3	1.5	30	70	100
6	2010571	Programming for Problem Solving Lab	ES	0	0	3	1.5	30	70	100
7	2010074	Communicative English Lab	HSMC	0	0	2	1	30	70	100
8	2010021	Environmental Science	MC	2	0	0	0	-	-	-
<b>Total Credits</b>				<b>13</b>	<b>3</b>	<b>8</b>	<b>18</b>	<b>210</b>	<b>490</b>	<b>700</b>

**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	2020008	Engineering Chemistry	BS	3	1	0	4	30	70	100
3	2020502	Data Structures	ES	3	0	0	3	30	70	100
4	2020371	Engineering Drawing practice	ES	1	0	4	3	30	70	100
5	2020073	Engineering Chemistry Lab	BS	0	0	3	1.5	30	70	100
6	2020572	Data Structures Lab	ES	0	0	2	1	30	70	100
7	2020372	Engineering Workshop	ES	1	0	3	2.5	30	70	100
<b>Total Credits</b>				<b>11</b>	<b>2</b>	<b>12</b>	<b>19</b>	<b>210</b>	<b>490</b>	<b>700</b>

**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	2036201	Digital Logic Design & computer Organization	PC	3	1	0	4	30	70	100
2	2036202	Database Management Systems	PC	3	0	0	3	30	70	100
3	2036203	Computer Networks	PC	3	0	0	3	30	70	100
4	2030004	Probability & Statistics	BS	3	0	0	3	30	70	100
5	2036204	Python Programming	PC	3	0	0	3	30	70	100
6	2046271	Database Management Systems Lab	PC	0	0	3	1.5	30	70	100
7	2036272	Computer Networks Lab	PC	0	0	3	1.5	30	70	100
8	2036273	Python Programming Lab	PC	0	0	3	1.5	30	70	100
9	2030025	Gender Sensitization	MC	2	0	0	0	-	-	-
<b>Total Credits</b>				<b>17</b>	<b>1</b>	<b>9</b>	<b>20.5</b>	<b>240</b>	<b>560</b>	<b>800</b>

**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	2040201	Basic Electrical Engineering	ES	3	0	0	3	30	70	100
2	2046205	Automata Theory & Language Processors	PC	3	0	0	3	30	70	100
3	2046206	Discrete Mathematics	pc	3	1	0	4	30	70	100
4	2046207	JAVA Programming	PC	3	0	0	3	30	70	100
5	2046208	Cryptography & Network Security	PC	3	0	0	3	30	70	100
6	2046209	Cyber Laws & Ethics	PC	2	0	0	2	30	70	100
7	2040271	Basic Electrical Engineering Lab	ES	0	0	2	1	30	70	100
8	2046274	Cryptography & Network Security Lab	PC	0	0	3	1.5	30	70	100
9	2046275	JAVA Programming Lab	PC	0	0	3	1.5	30	70	100
10	2040023	Constitution of India	MC	2	0	0	0	-	-	-
<b>Total Credits</b>				<b>19</b>	<b>1</b>	<b>8</b>	<b>22</b>	<b>270</b>	<b>630</b>	<b>900</b>

**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	2056210	Database Security	PC	3	0	0	3	30	70	100
2	2050010	Business Economics and Financial Analysis	HSMC	3	0	0	3	30	70	100
3	2056211	Operating Systems	PC	3	0	0	3	30	70	100
4	2056212	Software Engineering	PC	3	0	0	3	30	70	100
5		Open Elective I	OE	3	0	0	3	30	70	100
6	2056276	Database Security Lab	PC	0	0	3	1.5	30	70	100
7	2056277	Operating Systems Lab	PC	0	0	3	1.5	30	70	100
8	2056278	Case Tools Lab	PC	0	0	2	1	30	70	100
9	2056283	Internship*	PS	0	0	2	1	30	70	100
10	2020024	Intellectual Property Rights	MC	2	0	0	0	-	-	-
<b>Total Credits</b>				<b>17</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>270</b>	<b>630</b>	<b>900</b>

**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	2066213	Cloud Computing & Security	PC	3	0	0	3	30	70	100
2	2066214	Design and Analysis of Algorithms	PC	3	0	0	3	30	70	100
3	2066215	Web Technologies	PC	3	0	0	3	30	70	100
4		Professional Elective I	PE	3	0	0	3	30	70	100
5		Open Elective II	OE	3	0	0	3	30	70	100
6	2066279	Web Technology Lab	PC	0	0	3	1.5	30	70	100
7	2060075	Advanced English Communication Lab	HSMC	0	0	2	1	30	70	100
8	2066280	Cloud Computing & Security Lab	PC	0	0	2	1	30	70	100
9		Professional Ethics	MC	2	0	0				
<b>Total Credits</b>				<b>17</b>	<b>0</b>	<b>7</b>	<b>18.5</b>	<b>240</b>	<b>560</b>	<b>800</b>

\*Students have to complete internship in II Year- II Semester Summer, 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	2076218	Fundamentals of Management	HSMC	3	0	0	3	30	70	100
2	2076216	Block Chain & Cryptocurrency	PC	3	0	0	3	30	70	100
3	2076217	Mobile & wireless security	PC	3	0	0	3	30	70	100
4		Professional Elective II	PE	3	0	0	3	30	70	100
5		Professional Elective III	PE	3	0	0	3	30	70	100
6		Open Elective III	OE	3	0	0	3	30	70	100
7	2076281	Block Chain & Cryptocurrency Lab	PC	0	0	2	1	30	70	100
8	2076282	Mobile & wireless security Lab	PC	0	0	2	1	30	70	100
9	2076284	Industry Oriented Mini Project**	PS	0	0	4	2	30	70	100
<b>Total Credits</b>				18	0	8	22	<b>270</b>	<b>630</b>	<b>900</b>

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 IV	PE	3	0	0	3	30	70	100
2		Professional Elective V	PE	3	0	0	3	30	70	100
3		Professional Elective VI	PE	3	0	0	3	30	70	100
4	2086285	Technical Seminar	PS	0	0	2	1	30	70	100
5	2086286	Major Project	PS	0	0	20	10	30	70	100
<b>Total Credits</b>				9	0	22	20	<b>150</b>	<b>350</b>	<b>500</b>

**\*\*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	2066241	Data Mining
2	2066242	Intrusion Detection
3	2066243	Artificial Intelligence
4	2066244	Mobile Computing

**PE II - Professional Elective II**

S.No	Course Code	Course Title
1	2076245	Linux Programming
2	2076246	Wireless Sensor Networks
3	2076247	TCP/IP Design & Implementation
4	2076248	Application & Web Security

**PEIII – Professional Elective III**

S.No	Course Code	Course Title
1	2076249	Information Retrieval Systems
2	2076250	Machine Learning
3	2076251	Security Assessment & Risk Analysis
4	2076252	Natural Language Processing

**PE IV - Professional Elective IV**

S.No	Course Code	Course Title
1	2086253	Distributed System
2	2086254	Soft Computing
3	2086255	Ethical Hacking
4	2086256	Data Analytics

**PE V - Professional Elective V**

S.No	Course Code	Course Title
1	2086257	Artificial Neural Networks
2	2086258	Deep Learning
3	2086259	Enterprise Security
4	2086260	Internet of Things

**PE VI - Professional Elective VI**

S.No	Course Code	Course Title
1	2086261	Robotics
2	2086262	High Performance Computing
3	2086263	Digital Forensics
4	2086264	Business Intelligence Systems

**Open Electives**

	<b>Course Code</b>	<b>Course Title</b>
1	Open Elective I	2066209- Java Programming
		2076203- Database Management System
2	Open Elective II	2076208- Cryptography & Network Security
		2086206-Python Programming
3	Open Elective III	2086216- Block Chain Technology
		2086218- R Programming