

**Approved Course Structure**

**Program: B.Tech.- Computer Science and Systems Engineering**

**Regulations: SVEC-19**

<b>Mandatory Induction Program</b>	<b>03 weeks duration</b>
Induction program offered before commencement of the I-Semester course work	Physical activity
	Creative Arts
	Universal Human Values
	Literary
	Proficiency Modules
	Lectures by Eminent People
	Visits to local Areas
	Familiarization to Department/Branch and Innovations

**I B.Tech. – I Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT1BS01	Differential Equations and Multivariable Calculus	3	1	-	4	4	40	60	100
2	19BT1BS04	Engineering Chemistry	3	-	-	3	3	40	60	100
3	19BT1HS01	Communicative English	3	-	-	3	3	40	60	100
4	19BT10501	Programming for Problem Solving	3	1	-	4	4	40	60	100
5	19BT1BS32	Engineering Chemistry Lab	-	-	2	2	1	50	50	100
6	19BT1HS31	Communicative English Lab	-	-	2	2	1	50	50	100
7	19BT10331	Computer Aided Engineering Drawing	-	1	2	3	2	50	50	100
8	19BT10531	Programming for Problem Solving Lab	-	-	2	2	1	50	50	100
<b>Total:</b>			<b>12</b>	<b>3</b>	<b>8</b>	<b>23</b>	<b>19</b>	<b>360</b>	<b>440</b>	<b>800</b>

**I B.Tech. – II Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT2BS01	Transformation Techniques and Linear Algebra	3	1	-	4	4	40	60	100
2	19BT1BS02	Biology for Engineers	2	-	-	2	2	40	60	100
3	19BT1BS03	Engineering Physics	3	-	-	3	3	40	60	100
4	19BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	40	60	100
5	19BT20501	Digital Logic Design	3	-	-	3	3	40	60	100
6	19BT21501	Object Oriented Programming through Java	3	-	-	3	3	40	60	100
7	19BT1BS31	Engineering Physics Lab	-	-	2	2	1	50	50	100
8	19BT10231	Basic Electrical and Electronics Engineering Lab	-	-	2	2	1	50	50	100
9	19BT20331	Engineering Workshop	-	-	2	2	1	50	50	100
10	19BT21531	Object Oriented Programming through Java Lab	-	1	2	3	2	50	50	100
<b>Total:</b>			<b>17</b>	<b>2</b>	<b>8</b>	<b>27</b>	<b>23</b>	<b>440</b>	<b>560</b>	<b>1000</b>
11	19BT1AC01	Spoken English	2	-	-	2	-	-	-	-

**II B.Tech. – I Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT3BS01	Numerical Methods, Probability and Statistics	3	1	-	4	4	40	60	100
2	19BT30502	Computer Organization	3	-	-	3	3	40	60	100
3	19BT31201	Discrete Mathematical Structures	3	-	-	3	3	40	60	100
4	19BT31501	Data Structures and Algorithms	3	1	-	4	4	40	60	100
5	19BT31502	Operating Systems	3	-	-	3	3	40	60	100
6	19BT31503	System Programming	3	-	-	3	3	40	60	100
7	19BT31531	Data Structures and Algorithms Lab	-	-	2	2	1	50	50	100
8	19BT31532	Operating Systems Lab	-	-	2	2	1	50	50	100
9	19BT31533	Workshop in Computer Science and Systems Engineering	-	-	2	2	1	50	50	100
<b>Total:</b>			<b>18</b>	<b>2</b>	<b>6</b>	<b>26</b>	<b>23</b>	<b>390</b>	<b>510</b>	<b>900</b>
10	19BT315AC	Design Thinking	2	-	-	2	-	-	-	-

**II B.Tech. – II Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT40502	Database Management Systems	3	1	-	4	4	40	60	100
2	19BT40503	Design and Analysis of algorithms	3	-	-	3	3	40	60	100
3	19BT31202	Software Engineering	3	-	-	3	3	40	60	100
4	19BT41501	Theory of Computation	3	-	-	3	3	40	60	100
5	<b>Open Elective-2</b>		3	-	-	3	3	40	60	100
6	19BT3HS31	Soft Skills Lab	-	-	2	2	1	50	50	100
7	19BT40532	Database Management Systems Lab	-	-	2	2	1	50	50	100
8	19BT31232	Software Engineering Lab	-	-	2	2	1	50	50	100
9	19BT41531	Design and Analysis of Algorithms Lab	-	-	2	2	1	50	50	100
<b>Total:</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>24</b>	<b>20</b>	<b>400</b>	<b>500</b>	<b>900</b>
10	19BT3MC01	Environmental Science	2	-	-	2	-	40	--	40

**III B. Tech. – I Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT50503	Artificial Intelligence	3	-	-	3	3	40	60	100
2	19BT51202	Web Technologies	3	-	-	3	3	40	60	100
3	19BT51501	Computer Networks with Systems Approach	3	-	-	3	3	40	60	100
<b>Professional Elective-1</b>										
	19BT30501	Computer Graphics								
	19BT51502	Computational Statistics								
	19BT51503	Modern Cryptography	3	-	-	3	3	40	60	100
	19BT51504	Natural Language Processing								
	19BT51505	Parallel Computer Architectures								
5	<b>Open Elective-1</b>		3	-	-	3	3	40	60	100
	<b>Open-Elective-3 (Inter Disciplinary Elective-1)</b>									
	19BT50201	Control Systems								
	19BT60313	Optimization Techniques	3	-	-	3	3	40	60	100
	19BT50441	Microprocessors and Interfacing								
	19BT61041	Sensors and Applications								
7	19BT51232	Web Technologies Lab	-	-	2	2	1	50	50	100
8	19BT51531	Computer Networks with Systems Approach Lab	-	-	2	2	1	50	50	100
9	19BT51532	Socially Relevant Project-1	-	-	-	-	1	50	50	100
<b>Total:</b>			<b>18</b>	<b>-</b>	<b>4</b>	<b>22</b>	<b>21</b>	<b>390</b>	<b>510</b>	<b>900</b>
10	19BT5MC01	Universal Human Values	2	-	-	2	-	40	--	40

**III B. Tech. – II Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT6HS02	Organizational Behavior	3	-	-	3	3	40	60	100
2	19BT60501	Compiler Design	3	-	-	3	3	40	60	100
3	19BT51201	Data Warehousing and Data Mining	3	-	-	3	3	40	60	100
<b>Professional Elective-2</b>										
	19BT60504	Soft Computing								
	19BT60541	Ad Hoc and Wireless Sensor networks								
	19BT51203	Advanced Databases	3	-	-	3	3	40	60	100
	19BT61205	.Net Technologies								
	19BT61501	Parallel and Distributed Systems								
<b>Professional Elective-3</b>										
	19BT70503	Data Science								
	19BT61502	High Performance Computing								
	19BT61503	Information Security and Privacy	3	-	-	3	3	40	60	100
	19BT61504	Systems Engineering								
	19BT61505	User Interface Design								
<b>Open-Elective-4 (Inter Disciplinary Elective-2)</b>										
	19BT60317	Industrial Internet of Things								
	19BT60407	Image Processing	3	-	-	3	3	40	60	100
	19BT60441	Pattern Recognition								
	19BT70401	Embedded Systems								
	19BT51231	Data Warehousing and Data Mining Lab	-	-	2	2	1	50	50	100
	19BT61531	Internet of Things Lab	-	1	2	3	2	50	50	100
	19BT61532	Socially Relevant Project-2	-	-	-	-	1	50	50	100
<b>Total:</b>			<b>18</b>	<b>1</b>	<b>4</b>	<b>23</b>	<b>22</b>	<b>390</b>	<b>510</b>	<b>900</b>
10	19BT503AC	Foundations of Entrepreneurship	2	-	-	2	-	--	--	--

**IV B. Tech. – I Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT6HS01	Principles of Business Economics and Accountancy	3	-	-	3	3	40	60	100
2	19BT50501	Machine Learning	3	-	-	3	3	40	60	100
3	19BT71501	System Simulation and Modeling	3	-	-	3	3	40	60	100
4	<b>Professional Elective-4</b>		3	-	-	3	3	40	60	100
	19BT50504	Cyber Security								
	19BT61201	Cloud Computing								
	19BT71203	Big Data Technologies								
	19BT71502	Performance Evaluation of Computer Systems								
	19BT71503	Software Testing								
5	<b>Professional Elective-5</b>		3	-	-	3	3	40	60	100
	19BT70502	Augmented Reality and Virtual Reality								
	19BT70504	Blockchain Technologies								
	19BT71504	Data Visualization Techniques								
	19BT71505	Deep Learning								
	19BT71506	Robotics and Intelligent Systems								
6	19BT7MOOC	Open Elective-5 (MOOC)	-	-	-	-	3	--	100	100
7	19BT50531	Machine Learning Lab	-	-	2	2	1	50	50	100
8	19BT71531	System Simulation and Modeling Lab	-	-	2	2	1	50	50	100
9	19BT71532	Internship	-	-	-	-	2	--	100	100
<b>Total:</b>			<b>15</b>	<b>-</b>	<b>4</b>	<b>19</b>	<b>22</b>	<b>300</b>	<b>600</b>	<b>900</b>
10	19BT715AC	Kernel Programming	-	-	2	2	-	-	-	-

**IV B.Tech. – II Semester**

Sl. No.	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1	19BT81531	Project Work	-	-	-	-	10	100	100	200
<b>Total:</b>			-	-	-	-	<b>10</b>	<b>100</b>	<b>100</b>	<b>200</b>

**LIST OF COURSES FOR  
OPEN ELECTIVE-1 & OPEN ELECTIVE-2**

Course Code	Open Elective -1	Course Code	Open Elective -2
19BT4BS01	Material Science	19BT4HS01	Banking and Insurance
19BT4HS02	Business Communication and Career Skills	19BT4HS03	Cost Accounting and Financial Management
19BT4HS04	Entrepreneurship for Micro, Small and Medium Enterprises	19BT4HS05	Gender and Environment
19BT4HS06	German Language	19BT4HS07	Indian Economy
19BT4HS08	Indian History	19BT4HS09	Life Skills
19BT4HS10	Personality Development	19BT4HS11	Professional Ethics
19BT4HS12	Women Empowerment	19BT4HS13	Indian Tradition and Culture
19BT4HS14	Constitution of India	19BT40106	Disaster Mitigation and Management
19BT40205	Reliability and Safety Engineering	19BT40107	Sustainable Engineering
19BT50107	Environmental Pollution and Control	19BT40108	Contract Laws and Regulations
19BT50108	Planning for Sustainable Development	19BT40306	Global Strategy and Technology
19BT50109	Rural Technology	19BT40307	Management Science
19BT50505	Ethical Hacking	19BT40504	Cyber Laws and Security
19BT51207	AI in Healthcare	19BT50208	Intellectual Property Rights
19BT51506	Bioinformatics	19BT50409	Green Technologies



**MINOR/HONORS DEGREE  
IN  
CYBER SECURITY**

Semester	Course Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
III B.Tech. I Semester	19BT51503	Modern Cryptography	3	-	-	3	3	40	60	100
	19BT51507	Digital Forensics	3	-	-	3	3	40	60	100
	19BT51508	Malware and Risk Analysis	3	-	-	3	3	40	60	100
	19BT51533	Cryptography Lab	-	-	2	2	1	50	50	100
III B.Tech. II Semester	19BT61503	Information Security and Privacy	3	-	-	3	3	40	60	100
	19BT61506	Software Security	3	-	-	3	3	40	60	100
	19BT61507	Cloud security	3	-	-	3	3	40	60	100
	19BT61508	IoT Security	3	-	-	3	3	40	60	100
	19BT6CB31	Information Security and Privacy Lab	-	-	2	2	1	50	50	100
IV B.Tech. I Semester	19BT70504	Blockchain Technologies	3	-	-	3	3	40	60	100
	19BT71507	Database and Web Security	3	-	-	3	3	40	60	100
	19BT71533	Database and Web Security Lab	-	-	2	2	1	50	50	100

**Note:** If any of the student has chosen a CORE course from the above list in their curriculum then, he/she is not eligible to opt the same course/s for the Minor/Honor degree.



**DEAN (Academics)**

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**PRINCIPAL**  
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