

Approved Course Structure

Program: B.Tech.- Computer Science and Engineering

Regulations: SVEC-19

Mandatory Induction Program	03 weeks duration
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
Total:			12	3	8	23	19	360	440	800

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
Total:			17	2	8	27	23	440	560	1000
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.	19BT31201	Discrete Mathematical Structures	3	-	-	3	3	40	60	100
3.	19BT31502	Operating Systems	3	-	-	3	3	40	60	100
4.	19BT30501	Computer Graphics	3	-	-	3	3	40	60	100
5.	19BT30502	Computer Organization	3	-	-	3	3	40	60	100
6.	19BT30503	Data Structures	3	1	-	4	4	40	60	100
7.	19BT31532	Operating Systems Lab	-	-	2	2	1	50	50	100
8.	19BT30531	Data Structures Lab	-	-	2	2	1	50	50	100
9.	19BT30532	Workshop in Computer Science	-	-	2	2	1	50	50	100
Total:			18	2	6	26	23	390	510	900
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.	19BT31202	Software Engineering	3	-	-	3	3	40	60	100
2.	19BT40501	Computer Networks	3	-	-	3	3	40	60	100
3.	19BT40502	Database Management Systems	3	1	-	4	4	40	60	100
4.	19BT40503	Design and Analysis of Algorithms	3	-	-	3	3	40	60	100
5.	Open Elective-2		3	-	-	3	3	40	60	100
6.	19BT3HS31	Soft Skills Lab	-	-	2	2	1	50	50	100
7.	19BT31232	Software Engineering Lab	-	-	2	2	1	50	50	100
8.	19BT40531	Computer Networks Lab	-	-	2	2	1	50	50	100
9.	19BT40532	Database Management Systems Lab	-	-	2	2	1	50	50	100
Total:			15	1	8	24	20	400	500	900
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.	19BT51202	Web Technologies	3	-	-	3	3	40	60	100
2.	19BT41501	Theory of Computation	3	-	-	3	3	40	60	100
3.	19BT50501	Machine Learning	3	-	-	3	3	40	60	100
4.	Professional Elective-1									
	19BT71202	Mobile Application Development								
	19BT50502	Advanced Computer Architecture	3	-	-	3	3	40	60	100
	19BT50503	Artificial Intelligence								
	19BT50504	Cyber Security								
5.	Open Elective-1		3	-	-	3	3	40	60	100
6.	Open Elective-3 (Interdisciplinary Elective-1)									
	19BT60313	Optimization Techniques								
	19BT50343	Robotics and Automation	3	-	-	3	3	40	60	100
	19BT70401	Embedded Systems								
	19BT70405	Speech Processing								
7.	19BT51232	Web Technologies Lab	-	-	2	2	1	50	50	100
8.	19BT50531	Machine Learning Lab	-	-	2	2	1	50	50	100
9.	19BT50532	Socially Relevant Project-1	-	-	-	-	1	50	50	100
Total:			18	-	4	22	21	390	510	900
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.	19BT51201	Data Warehousing and Data Mining	3	-	-	3	3	40	60	100
3.	19BT60501	Compiler Design	3	-	-	3	3	40	60	100
Professional Elective-2										
4.	19BT51203	Advanced Databases	3	-	-	3	3	40	60	100
	19BT51205	Mobile Computing								
	19BT71503	Software Testing								
	19BT51504	Natural Language Processing								
Professional Elective-3										
5.	19BT61501	Parallel and Distributed Systems	3	-	-	3	3	40	60	100
	19BT60502	Cryptography and Network Security								
	19BT60503	Full Stack Development								
	19BT60504	Soft Computing								
Open Elective-4 (Interdisciplinary Elective-2)										
6.	19BT50403	VLSI Design	3	-	-	3	3	40	60	100
	19BT60407	Image Processing								
	19BT71207	Game Development								
	19BT71501	System Simulation and Modeling								
7.	19BT51231	Data Warehousing and Data Mining Lab	-	-	2	2	1	50	50	100
8.	19BT61531	Internet of Things Lab	-	1	2	3	2	50	50	100
9.	19BT60531	Socially Relevant Project-2	-	-	-	-	1	50	50	100
Total:			18	1	4	23	22	390	510	900
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.	19BT61201	Cloud Computing	3	-	-	3	3	40	60	100
3.	19BT70501	Computer Vision	3	-	-	3	3	40	60	100
Professional Elective-4										
4.	19BT71203	Big Data Technologies	3	-	-	3	3	40	60	100
	19BT51209	IoT Architecture and Protocols								
	19BT70502	Augmented Reality and Virtual Reality								
	19BT70503	Data Science								
Professional Elective-5										
5.	19BT61502	High Performance Computing	3	-	-	3	3	40	60	100
	19BT61505	User Interface Design								
	19BT71505	Deep Learning								
	19BT70504	Blockchain Technologies								
6.	19BT7MOOC	Open Elective-5 (MOOC)	-	-	-	-	3	-	100	100
7.	19BT61231	Cloud Computing Lab	-	-	2	2	1	50	50	100
8.	19BT70531	Computer Vision Lab	-	-	2	2	1	50	50	100
9.	19BT70532	Internship	-	-	-	-	2	-	100	100
Total:			15	-	4	19	22	300	600	900
10.	19BT705AC	Robotic Process Automation	-	-	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.	19BT80531	Project Work	-	-	-	-	10	100	100	200
		Total:	-	-	-	-	10	100	100	200

**LIST OF COURSES FOR
OPEN ELECTIVE-1 and 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

**HONORS/MINOR DEGREE
IN
ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING**

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	19BT50503	Artificial Intelligence*	3	-	-	3	3	40	60	100
	19BT50506	Data Visualization	3	-	-	3	3	40	60	100
	19BT50507	Feature Engineering for Machine Learning	3	-	-	3	3	40	60	100
	19BT50508	Statistics with Python*	3	-	-	3	3	40	60	100
	19BT50533	Data Visualization Lab	-	-	2	2	1	50	50	100
	19BT50534	Statistics with Python Lab*	-	-	2	2	1	50	50	100
III B.Tech. II Semester	19BT71506	Robotics and Intelligent Systems	3	-	-	3	3	40	60	100
	19BT60505	Applied Machine Learning	3	-	-	3	3	40	60	100
	19BT60506	Nature Inspired Computing	3	-	-	3	3	40	60	100
	19BT60532	Applied Machine Learning Lab	-	-	2	2	1	50	50	100
IV B.Tech. I Semester	19BT70505	Advanced Text Analytics	3	-	-	3	3	40	60	100
	19BT70506	Deep Learning with Computer Vision	3	-	-	3	3	40	60	100
	19BT70533	Deep Learning with Computer Vision Lab	-	-	2	2	1	50	50	100

*For minor degree students

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

PRINCIPAL
 DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING
 (AUTONOMOUS)
 Dr. B. R. Ambedkar National Institute of Technology
 Gandhinagar, Hyderabad - 500 075, INDIA


Dean (Academics)
 Dr. B. R. Ambedkar National Institute of Technology
 Gandhinagar, Hyderabad - 500 075, INDIA

**HONORS/MINOR DEGREE
IN
VIRTUAL AND AUGMENTED REALITY**

Year & 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	19BT71207	Game Development	3	-	-	3	3	40	60	100
	19BT30501	Computer Graphics*	3	-	-	3	3	40	60	100
	19BT50509	Multimedia Systems	3	-	-	3	3	40	60	100
	19BT50535	Game Development Lab	-	-	2	2	1	50	50	100
III B.Tech. II Semester	19BT61505	User Interface Design*	3	-	-	3	3	40	60	100
	19BT70501	Computer Vision*	3	-	-	3	3	40	60	100
	19BT60507	3D Modeling and Animation	3	-	-	3	3	40	60	100
	19BT60508	Augmented Reality	3	-	-	3	3	40	60	100
	19BT60533	Augmented Reality Lab	-	-	2	2	1	50	50	100
IV B.Tech. I Semester	19BT70507	Virtual and Augmented Reality Applications	3	-	-	3	3	40	60	100
	19BT70508	Virtual Reality	3	-	-	3	3	40	60	100
	19BT70534	Virtual Reality Lab	-	-	2	2	1	50	50	100

*For minor degree students

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


DEAN (Academics)
Dean (Academics)
Sree Vidyanikethan Engg. College
Sree Sainath Nagar
TIRUPATI - 517 102, A.P., India.


PRINCIPAL
PRINCIPAL
SREE VIDYANIKETHAN ENGINEERING COLLEGE
(AUTONOMOUS)
Sree Sainath Nagar, A. RANGAMPET
Chittoor (Dist.) - 517 102, A.P., INDIA.