

Sarvajani University
Sarvajani College of Engineering and Technology
Teaching scheme of Accelerated B. Tech.



(Department of Computer Engineering) Effective from 2025-26

*SEMESTER 1 / SEMESTER 2											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	MC	BTMD27101	Induction Program	--	--	--	0	21 Days	--	--	0
2	HSMC	BTAS20101	Technical Communication	2	0	0	2	2	50	50	100
3	HSMC	BTAS20102	Technical Communication Lab	0	0	2	1	2	25	25	50
4	HSMC	BTAS20103	Universal Human Values	2	0	0	2	2	50	50	100
5	ESC	BTEL22101	Basic Electrical Engineering	3	0	0	3	3	50	50	100
6	ESC	BTEL22102	Basic Electrical Engineering -Lab	0	0	2	1	2	25	25	50
7	ESC	BTGN22101	Design thinking	0	0	2	1	2	25	25	50
8	ESC	BTGN22102	Electrical-Electronics Workshop	0	0	2	1	2	25	25	50
9	ESC	BTCO22101	Python Programming	2	0	0	2	2	50	50	100
10	ESC	BTCO22102	Python Programming Lab	0	0	2	1	2	25	25	50
11	ESC	BTCO22103	Programming for Problem Solving	2	0	0	2	2	50	50	100
12	ESC	BTCO22104	Programming for Problem Solving Lab	0	0	2	1	2	25	25	50
13	ESC	BTME22101	Engineering Graphics and Design	1	0	0	1	1	25	25	50
14	ESC	BTME22102	Engineering Graphics and Design Lab	0	0	4	2	4	50	50	100
15	ESC	BTME22105	Manufacturing Practice & Workshop	0	0	2	1	2	25	25	50
16	ESC	BTEC22101	Applied Electronics	3	0	0	3	3	50	50	100
17	ESC	BTEC22102	Applied Electronics Lab	0	0	2	1	2	25	25	50
18	ESC	BTCH22101	Energy and Environmental Engineering	2	0	0	2	2	50	50	100
19	ESC	BTCH22102	Energy and Environmental Engineering Lab	0	0	2	1	2	25	25	50
20	BSC	BTAS21103	Semiconductor Physics	2	0	0	2	2	50	50	100
21	BSC	BTAS21104	Semiconductor Physics Lab	0	0	2	1	2	25	25	50
22	BSC	BTAS21105	Mathematics –I	3	1	0	4	4	50	50	100
23	BSC	BTAS21107	Physics - Quantum Mechanics	3	0	0	3	3	50	50	100
24	BSC	BTAS21201	Mathematics –2	3	1	0	4	4	50	50	100
TOTAL				28	2	24	42	54	875	875	1750

* Distribution of all courses for semester 1 and 2 may vary year to year.

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SEMESTER 3											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	MC	BTMD20301	Indian Constitution	2	0	0	0	2	50	0	50
2	HSMC	BTAS20301	Principles of Economics and Management	2	0	0	2	2	50	50	100
3	BSC	BTAS21402	Probability and Statistics	3	1	0	4	4	50	50	100
4	PCC	BTCO23301	Data Structures and Applications	3	0	0	3	3	50	50	100
5	PCC	BTCO23302	Data Structures and Applications Lab	0	0	2	1	2	25	25	50
6	PCC	BTCO23303	Computer Organization	3	0	0	3	3	50	50	100
7	PCC	BTCO23304	Computer Organization Lab	0	0	2	1	2	25	25	50
8	PCC	BTCO23305	Database Management Systems	3	0	0	3	3	50	50	100
9	PCC	BTCO23306	Database Management Systems Lab	0	0	2	1	2	25	25	50
10	PCC	BTCO23307	Web Technologies	2	0	0	2	2	50	50	100
11	PCC	BTCO23308	Web Technologies Lab	0	0	2	1	2	25	25	50
12	PCC	BTCO#####	MOOCs-1	3	0	0	3	3	50	50	100
TOTAL				21	1	8	24	30	500	450	950

SEMESTER 4											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	HSMC	BTMD27401	IKS-I / NEP Course from Online Portal	2	0	0	0	2	50	0	50
2	HSMC	BTAS20401	Entrepreneurship and Startup	2	0	0	2	2	50	50	100
3	ESC	BTCO22409	Discrete Mathematics for Computer Science	3	0	0	3	3	50	50	100
4	OEC	BTXX254##	Open Elective-1	3	0	0	3	3	50	50	100
5	PCC	BTCO23401	Design and Analysis of Algorithms	3	0	0	3	3	50	50	100
6	PCC	BTCO23402	Design and Analysis of Algorithms Lab	0	0	2	1	2	25	25	50
7	PCC	BTCO23403	Operating Systems	3	0	0	3	3	50	50	100
8	PCC	BTCO23404	Operating Systems Lab	0	0	2	1	2	25	25	50
9	PCC	BTCO23405	Object Oriented Programming with Java	3	0	0	3	3	50	50	100
10	PCC	BTCO23406	Object Oriented Programming with Java Lab	0	0	2	1	2	25	25	50
11	PCC	BTCO23407	Full Stack Development	3	0	0	3	3	50	50	100
12	PCC	BTCO23408	Full Stack Development Lab	0	0	2	1	2	25	25	50
13	PCC	BTCO#####	MOOCs-2	3	0	0	3	3	50	50	100
14	PCC	BTCO#####	MOOCs-3	3	0	0	3	3	50	50	100
15	PROJ	BTMD26401	Summer Internship -1	-	-	-	0	-	-	-	-
TOTAL				28	0	8	30	36	600	550	1150

MOOCs-1	Compiler Design
MOOCs-2	Enterprise Application Development
MOOCs-3	Information and Network Security

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SEMESTER 5											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	HSMC	BTGN20501	Research and Innovation	1	0	0	1	1	25	25	50
2	HSMC	BTMD27601	IKS-II / NEP Course from Online Portal	2	0	0	0	2	50	0	50
3	OEC	BTXX255##	Open Elective-2	3	0	0	3	3	50	50	100
4	PCC	BTCO23501	Artificial Intelligence	3	0	0	3	3	50	50	100
5	PCC	BTCO23502	Artificial Intelligence Lab	0	0	2	1	2	25	25	50
6	PCC	BTCO23503	Computer Networks	3	0	0	3	3	50	50	100
7	PCC	BTCO23504	Computer Networks Lab	0	0	2	1	2	25	25	50
8	PCC	BTCO23505	Theory of Computation	3	1	0	4	4	50	50	100
9	PEC	BTCO245##	Professional Elective-1	3	0	0	3	3	50	50	100
10	PEC	BTCO245##	Professional Elective-1 Lab	0	0	2	1	2	25	25	50
11	PEC	BTCO247##	Professional Elective-4	2	0	0	2	2	50	50	100
12	PEC	BTCO247##	Professional Elective-4 Lab	0	0	2	1	2	25	25	50
TOTAL				20	1	8	23	29	475	425	900

SEMESTER 6											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	HSMC	BTGN20601	IPR	1	0	0	1	1	25	25	50
2	OEC	BTXX256##	Open Elective-3	3	0	0	3	3	50	50	100
3	PCC	BTCO23601	Data Science	3	0	0	3	3	50	50	100
4	PCC	BTCO23602	Data Science Lab	0	0	2	1	2	25	25	50
5	PCC	BTCO23603	Machine Learning	3	0	0	3	3	50	50	100
6	PCC	BTCO23604	Machine Learning Lab	0	0	2	1	2	25	25	50
7	PCC	BTCO#####	MOOCs-4	2	0	0	2	2	50	50	100
8	PEC	BTCO246##	Professional Elective-2	3	0	0	3	3	50	50	100
9	PEC	BTCO246##	Professional Elective-2 Lab	0	0	2	1	2	25	25	50
10	PEC	BTCO246##	Professional Elective-3	3	0	0	3	3	50	50	100
11	PEC	BTCO246##	Professional Elective-3 Lab	0	0	2	1	2	25	25	50
12	PEC	BTCO#####	MOOC 5 - Professional Elective-5	3	0	0	3	3	50	50	100
13	PROJ	BTMD26601	Summer Internship-2	-	-	-	0	-	-	-	-
TOTAL				21	0	8	25	29	475	475	950

MOOCs-4 8 weeks course of NPTEL	Advanced Graph Theory
	Edge Computing
	Foundation of Cloud IoT Edge ML
	Linear programming and its applications to computer science
	Optimisation for Machine Learning: Theory and Implementation
	User-centric Computing For Human-Computer Interaction
	Wireless Ad Hoc and Sensor Networks

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SEMESTER 7											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
1	PROJ	BTCO26706	Project-I	0	0	8	4	8	50	50	100
2	PROJ	BTCO26801	Project-II / Internship	0	0	24	12	24	120	80	200
TOTAL				0	0	32	16	32	170	130	300

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Teaching Scheme of B. Tech. Professional Elective Courses (Computer Engineering)											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
Group - Professional Elective 1 - Semester 5											
1	PEC	BTCO24506	Data Mining and Data Warehousing	3	0	0	3	3	50	50	100
2	PEC	BTCO24507	Data Mining and Data Warehousing Lab	0	0	2	1	2	25	25	50
3	PEC	BTCO24508	Data Visualization and Dashboard	3	0	0	3	3	50	50	100
4	PEC	BTCO24509	Data Visualization and Dashboard Lab	0	0	2	1	2	25	25	50
5	PEC	BTCO24510	Cyber Security \ Ethical Hacking	3	0	0	3	3	50	50	100
6	PEC	BTCO24511	Cyber Security \ Ethical Hacking Lab	0	0	2	1	2	25	25	50
7	PEC	BTCO24512	Internet of Things	3	0	0	3	3	50	50	100
8	PEC	BTCO24513	Internet of Things Lab	0	0	2	1	2	25	25	50
Group - Professional Elective 2 – Semester 6											
9	PEC	BTCO24605	DevOps	3	0	0	3	3	50	50	100
10	PEC	BTCO24606	DevOps Lab	0	0	2	1	2	25	25	50
11	PEC	BTCO24607	Cloud Computing	3	0	0	3	3	50	50	100
12	PEC	BTCO24608	Cloud Computing Lab	0	0	2	1	2	25	25	50
13	PEC	BTCO24609	Adversarial Machine Learning	3	0	0	3	3	50	50	100
14	PEC	BTCO24610	Adversarial Machine Learning Lab	0	0	2	1	2	25	25	50
15	PEC	BTCO24611	Deep Learning	3	0	0	3	3	50	50	100
16	PEC	BTCO24612	Deep Learning Lab	0	0	2	1	2	25	25	50
Group - Professional Elective 3 – Semester 6											
17	PEC	BTCO24613	Programming Paradigms and Frameworks	3	0	0	3	3	50	50	100
18	PEC	BTCO24614	Programming Paradigms and Frameworks Lab	0	0	2	1	2	25	25	50
19	PEC	BTCO24615	Modern Web Frameworks	3	0	0	3	3	50	50	100
20	PEC	BTCO24616	Modern Web Frameworks Lab	0	0	2	1	2	25	25	50
21	PEC	BTCO24617	UI/UX Design	3	0	0	3	3	50	50	100
22	PEC	BTCO24618	UI/UX Design Lab	0	0	2	1	2	25	25	50
23	PEC	BTCO24619	Blockchain Technology	3	0	0	3	3	50	50	100
24	PEC	BTCO24620	Blockchain Technology Lab	0	0	2	1	2	25	25	50
Group - Professional Elective 4 – Semester 5											
25	PEC	BTCO24706	Mobile Application Development	2	0	0	2	2	50	50	100
26	PEC	BTCO24707	Mobile Application Development Lab	0	0	2	1	2	25	25	50
27	PEC	BTCO24708	Native Mobile App Development	2	0	0	2	2	50	50	100
28	PEC	BTCO24709	Native Mobile App Development Lab	0	0	2	1	2	25	25	50
29	PEC	BTCO24710	AR/VR	2	0	0	2	2	50	50	100
30	PEC	BTCO24711	AR/VR Lab	0	0	2	1	2	25	25	50
31	PEC	BTCO24712	Computer Vision	2	0	0	2	2	50	50	100
32	PEC	BTCO24713	Computer Vision Lab	0	0	2	1	2	25	25	50
33	PEC	BTCO24714	Natural Language Processing (NLP)	2	0	0	2	2	50	50	100
34	PEC	BTCO24715	Natural Language Processing (NLP) Lab	0	0	2	1	2	25	25	50
Group - Professional Elective 5 – Semester 6											
35	PEC	BTCO24716	Quantum Computing	3	0	0	3	3	50	50	100
36	PEC	BTCO24717	Soft Computing	3	0	0	3	3	50	50	100

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37	PEC	BTCO24718	Generative AI	3	0	0	3	3	50	50	100
38	PEC	BTCO24719	Big Data Analytics	3	0	0	3	3	50	50	100
39	PEC	BTCO24720	High Performance Computing	3	0	0	3	3	50	50	100
40	PEC	BTCO24721	Game Theory \ Robotics	3	0	0	3	3	50	50	100
41	PEC	BTCO24722	Software Engineering	3	0	0	3	3	50	50	100

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Teaching Scheme of B. Tech. Open Elective Courses (Computer Engineering)											
Sr. No.	Category	Subject Code	Subject Name	Teaching Scheme (In Hours)			Total Credits	Total Hours	Evaluation Scheme (Marks)		
				L	T	P			C	H	CCE
Group - Open Elective 1 Semester 4											
1	OEC	BTCO25401	Fundamentals of Artificial Intelligence	3	0	0	3	3	50	50	100
2	OEC	BTCO25402	Advanced Python Programming	3	0	0	3	3	50	50	100
3	OEC	BTCO25403	Object Oriented Modelling and Programming	3	0	0	3	3	50	50	100
4	OEC	BTCO25404	Web Technology Concepts	3	0	0	3	3	50	50	100
Group - Open Elective 2 Semester 5											
5	OEC	BTCO25501	Content Management Systems	3	0	0	3	3	50	50	100
6	OEC	BTCO25502	Cyber Security and Cyber Laws	3	0	0	3	3	50	50	100
7	OEC	BTCO25503	Mobile App Development	3	0	0	3	3	50	50	100
8	OEC	BTCO25504	Data Science	3	0	0	3	3	50	50	100
Group - Open Elective 3 Semester 6											
9	OEC	BTCO25601	Multimedia and Animation	3	0	0	3	3	50	50	100
10	OEC	BTCO25602	Data Analysis and Visualization	3	0	0	3	3	50	50	100
11	OEC	BTCO25603	Social Media Marketing	3	0	0	3	3	50	50	100