

Approved Course Structure

Program: B.Tech.- Electronics and Communication 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.	Subject 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.	19BT1BS02	Biology for Engineers	2	-	-	2	2	40	60	100
3.	19BT1BS03	Engineering Physics	3	-	-	3	3	40	60	100
4.	19BT10341	Basic Civil and Mechanical Engineering	3	-	-	3	3	40	60	100
5.	19BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	40	60	100
6.	19BT1BS31	Engineering Physics Lab	-	-	2	2	1	50	50	100
7.	19BT10231	Basic Electrical and Electronics Engineering Lab	-	-	2	2	1	50	50	100
8.	19BT20331	Engineering Workshop	-	-	2	2	1	50	50	100
Total:			14	1	6	21	18	350	450	800
9.	19BT1AC01	Spoken English	2	-	-	2	-	-	-	-

I B.Tech. – II Semester

Sl. No.	Subject 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.	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.	19BT20241	Network Analysis	3	1	-	4	4	40	60	100
6.	19BT1BS32	Engineering Chemistry Lab	-	-	2	2	1	50	50	100
7.	19BT1HS31	Communicative English Lab	-	-	2	2	1	50	50	100
8.	19BT10331	Computer Aided Engineering Drawing	-	1	2	3	2	50	50	100
9.	19BT10531	Programming for Problem Solving Lab	-	-	2	2	1	50	50	100
10.	19BT20251	Network Analysis Lab	-	-	2	2	1	50	50	100
Total:			15	4	10	29	24	450	550	1000

II B.Tech.– I Semester

Sl. No.	Subject Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT3BS02	Special Functions and Complex Analysis	3	1	-	4	4	40	60	100
2.	19BT30401	Electromagnetic Fields and Transmission Lines	3	1	-	4	4	40	60	100
3.	19BT30402	Electronic Devices and Circuits	3	-	-	3	3	40	60	100
4.	19BT30403	Signals and Systems	3	-	-	3	3	40	60	100
5.	19BT30404	Switching Theory and Logic Design	3	-	-	3	3	40	60	100
6.	19BT3HS31	Soft Skills Lab	-	-	2	2	1	50	50	100
7.	19BT30431	Electromagnetic Fields and Transmission Lines Lab	-	-	2	2	1	50	50	100
8.	19BT30432	Electronic Devices and Circuits Lab	-	-	2	2	1	50	50	100
9.	19BT30433	Signals and Systems Lab	-	-	2	2	1	50	50	100
Total:			15	2	8	25	21	400	500	900
10.	19BT3MC01	Environmental Science	2	-	-	2	-	40	-	40

II B.Tech. – II Semester

Sl. No.	Subject Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT50201	Control Systems	3	-	-	3	3	40	60	100
2.	19BT40401	Analog Communications	3	-	-	3	3	40	60	100
3.	19BT40402	Electronic Circuit Analysis and Design	3	1	-	4	4	40	60	100
4.	19BT40403	Linear and Digital IC Applications	3	-	-	3	3	40	60	100
5.	19BT40404	Probability and Stochastic Processes	3	-	-	3	3	40	60	100
6.	Open Elective - 1		3	-	-	3	3	40	60	100
7.	19BT40431	Digital Design Workshop	-	-	2	2	1	50	50	100
8.	19BT40432	Electronic Circuit Analysis and Design Lab	-	-	2	2	1	50	50	100
9.	19BT40433	Linear and Digital IC Applications Lab	-	-	2	2	1	50	50	100
Total:			18	1	6	25	22	390	510	900
10.	19BT315AC	Design Thinking	2	-	-	2	-	-	-	-

III B.Tech. – I Semester

Sl. No.	Subject Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT50401	Digital Communications	3	-	-	3	3	40	60	100
2.	19BT50402	Digital Signal Processing	3	-	-	3	3	40	60	100
3.	19BT50403	VLSI Design	3	-	-	3	3	40	60	100
Professional Elective-1										
4.	19BT50404	Electronic Measurements and Instrumentation	3	-	-	3	3	40	60	100
	19BT50405	Fiber Optic Communications								
	19BT50406	FPGA Architectures and Applications								
	19BT50407	Radar Engineering								
5.	Open Elective-2		3	-	-	3	3	40	60	100
Inter Disciplinary Elective-1										
6.	19BT30502	Computer Organization	3	-	-	3	3	40	60	100
	19BT40501	Computer Networks								
	19BT21501	Object Oriented Programming Through Java								
	19BT50408	Microelectromechanical Systems								
7.	19BT61531	Internet of Things Lab	-	1	2	3	2	50	50	100
8.	19BT50431	Analog and Digital Communications Lab	-	-	2	2	1	50	50	100
9.	19BT50432	Socially Relevant Project-1	-	-	-	-	1	50	50	100
Total:			18	1	4	23	22	390	510	900
10.	19BT503AC	Foundations of Entrepreneurship	2	-	-	2	-	-	-	-

III B.Tech. – II Semester

Sl. No.	Subject 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.	19BT60401	Antennas and Propagation	3	-	-	3	3	40	60	100
3.	19BT60402	Microcontrollers	3	-	-	3	3	40	60	100
Professional Elective-2										
4.	19BT60403	Advanced Digital Signal Processing	3	-	-	3	3	40	60	100
	19BT60404	ARM and AVR Microcontrollers								
	19BT60405	Digital IC Design								
	19BT60406	Satellite Communications								
Professional Elective-3										
5.	19BT60407	Image Processing	3	-	-	3	3	40	60	100
	19BT60408	Nanostructures and Nanotechnology								
	19BT60409	Telecommunication Switching Systems								
	19BT60410	Testing and Testability								
Inter Disciplinary Elective-2										
6.	19BT50501	Machine Learning	3	-	-	3	3	40	60	100
	19BT60201	Power Electronics								
	19BT60502	Cryptography and Network Security								
	19BT71002	PLC and SCADA								
7.	19BT60431	Digital Signal Processing Lab	-	-	2	2	1	50	50	100
8.	19BT60432	Microcontrollers Lab	-	-	2	2	1	50	50	100
9.	19BT60433	Socially Relevant Project-2	-	-	-	-	1	50	50	100
Total:			18	-	4	22	21	390	510	900
10.	19BT5MC01	Universal Human Values	2	-	-	2	-	40	-	40

IV B.Tech. – I Semester

Sl. No.	Subject 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.	19BT70401	Embedded Systems	3	-	-	3	3	40	60	100
3.	19BT70402	Microwave Theory and Techniques	3	-	-	3	3	40	60	100
Professional Elective-4										
4.	19BT71001	Biomedical Instrumentation								
	19BT70403	Analog IC Design	3	-	-	3	3	40	60	100
	19BT70404	Cellular and Mobile communications								
	19BT70405	Speech Processing								
Professional Elective-5										
5.	19BT70406	Adaptive Signal Processing								
	19BT70407	Information Theory and Coding Techniques	3	-	-	3	3	40	60	100
	19BT70408	Low Power CMOS VLSI Design								
	19BT70409	Real Time Operating Systems								
6.	19BT7MOOC	MOOC	-	-	-	-	3	-	100	100
7.	19BT70431	Antennas and Microwave Engineering Lab	-	-	2	2	1	50	50	100
8.	19BT70432	Embedded Systems Lab	-	-	2	2	1	50	50	100
9.	19BT70433	Internship	-	-	-	-	2	-	100	100
Total:			15	-	4	19	22	300	600	900
10.	19BT704AC	Principles of Operating Systems	2	-	-	2	-	-	-	-

IV B.Tech. – II Semester

Sl. No.	Subject Code	Course Title	Contact Periods per week				C	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	19BT80431	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

MINOR/HONORS DEGREE
IN VLSI AND EMBEDDED SYSTEMS

Semester	Course code	Course title	Minor/ Honors	Contact Periods per week				Scheme of Examination Max. Marks		
				L	T	P	C	Int. Marks	Ext. Marks	Total Marks
III B.Tech I-Sem	19BT50405	FPGA Architectures and Applications	Minor/ Honor	3	-	-	3	40	60	100
	19BT50410	Analog VLSI	Minor/ Honor	3	-	-	3	40	60	100
	19BT50411	Digital VLSI design	Minor	3	-	-	3	40	60	100
	19BT50412	Microprocessors and Microcontrollers	Minor	3	-	-	3	40	60	100
	19BT50433	VLSI Lab-1	Minor/ Honor	-	-	2	1	40	60	100
III B.Tech II-Sem	19BT60404	ARM and AVR Microcontrollers	Minor/ Honor	3	-	-	3	40	60	100
	19BT60411	ASIC Design	Minor/ Honor	3	-	-	3	40	60	100
	19BT60412	System-on-Chip Design	Minor/ Honor	3	-	-	3	40	60	100
	19BT60413	VLSI Testability	Minor/ Honor	3	-	-	3	40	60	100
	19BT60434	VLSI Lab-2	Minor/ Honor	-	-	2	1	40	60	100
IV B.Tech I-Sem	19BT70410	Robotics	Minor/ Honor	3	-	-	3	40	60	100
	19BT70434	Robotics Lab	Minor/ Honor	-	-	2	1	40	60	100

Note: If any 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.



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