

Approved Course Structure

Program: B.Tech.- Electronics and Instrumentation Engineering

Regulations: SVEC-16

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
I Year - I Semester											
1.	16BT1BS02	Engineering Physics	BS	3	1	0	4	3	30	70	100
2.	16BT1BS03	Matrices and Numerical Methods	BS	3	1	0	4	3	30	70	100
3.	16BT1BS04	Multi-Variable calculus and Differential Equations	BS	3	1	0	4	3	30	70	100
4.	16BT10241	Network Analysis	ES	4	1	0	5	4	30	70	100
5.	16BT10501	Programming in C	ES	3	1	0	4	3	30	70	100
6.	16BT1BS32	Engineering Physics Lab	BS	0	0	3	3	2	50	50	100
7.	16BT10232	Electrical and Electronics Workshop Practice	ES	0	0	3	3	2	50	50	100
8.	16BT10251	Network Analysis Lab	ES	0	0	3	3	2	50	50	100
9.	16BT10531	Programming in C Lab	ES	0	0	3	3	2	50	50	100
Total				16	5	12	33	24	350	550	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
I Year - II Semester											
1.	16BT1HS01	Technical English	HS	3	1	0	4	3	30	70	100
2.	16BT1BS01	Engineering Chemistry	BS	3	1	0	4	3	30	70	100
3.	16BT2BS01	Transformation Techniques and Partial Differential Equations	BS	3	1	0	4	3	30	70	100
4.	16BT20401	Electronic Devices and Circuits	ES	3	1	0	4	3	30	70	100
5.	16BT20541	Foundations of Data Structures	ES	3	1	0	4	3	30	70	100
6.	16BT1HS31	English Language Lab	HS	0	0	3	3	2	50	50	100
7.	16BT1BS31	Engineering Chemistry Lab	BS	0	0	3	3	2	50	50	100
8.	16BT10331	Computer Aided Engineering Drawing	ES	0	1	6	7	3	50	50	100
9.	16BT20551	Foundations of Data structures Lab	ES	0	0	3	3	2	50	50	100
Total				15	6	15	36	24	350	550	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
II Year - I Semester											
1.	16BT3HS01	Environmental Studies	HS	3	0	0	3	3	30	70	100
2.	16BT3BS02	Special Functions and Complex Analysis	BS	3	1	0	4	3	30	70	100
3.	16BT31001	Electrical and Electronic Measurements	PC	3	1	0	4	3	30	70	100
4.	16BT31002	Sensors and Transducers	PC	3	1	0	4	3	30	70	100
5.	16BT30403	Switching Theory and Logic Design	PC	3	1	0	4	3	30	70	100
6.	16BT30241	Electrical Technology	PC	3	1	0	4	3	30	70	100
7.	16BT30431	Basic Electronics and Digital Design Lab	PC	0	0	3	3	2	50	50	100
8.	16BT31031	Measurements and Transducers Lab	PC	0	0	3	3	2	50	50	100
9.	16BT30251	Electrical Technology Lab	PC	0	0	3	3	2	50	50	100
Total				18	5	9	32	24	330	570	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
II Year - II Semester											
1.	16BT50201	Control Systems	PC	3	1	0	4	3	30	70	100
2.	16BT30401	Electronic Circuit Analysis & Design	PC	3	1	0	4	3	30	70	100
3.	16BT41001	Industrial Instrumentation - I	PC	3	1	0	4	3	30	70	100
4.	16BT41002	Linear and Digital ICs	PC	3	1	0	4	3	30	70	100
5.	16BT30402	Signals and Systems	PC	3	1	0	4	3	30	70	100
6.	16BT40406	Pulse and Digital Circuits	PC	3	1	0	4	3	30	70	100
7.	16BT41031	Analog Electronics Lab	PC	0	0	3	3	2	50	50	100
8.	16BT41032	Control Systems Design Lab	PC	0	0	3	3	2	50	50	100
9.	16BT41033	Linear and Digital ICs Lab	PC	0	0	3	3	2	50	50	100
Total				18	6	9	33	24	330	570	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
III Year - I Semester											
1.	16BT3HS02	Managerial Economics and Principles of Accountancy	HS	3	1	0	4	3	30	70	100
2.	16BT51001	Biomedical Instrumentation	PC	3	1	0	4	3	30	70	100
3.	16BT51002	Industrial Instrumentation - II	PC	3	1	0	4	3	30	70	100
4.	16BT51003	Principles of Communication	PC	3	1	0	4	3	30	70	100
5.	16BT60402	Digital Signal Processing	PC	3	1	0	4	3	30	70	100
6.	Interdisciplinary Elective-1		IDE	3	1	0	4	3	30	70	100
	16BT51004	Computer Organization and Architecture									
	16BT51241	Objected Oriented Programming									
	16BT31501	Operating Systems									
	16BT60502	Soft Computing									
7.	16BT51031	Industrial Instrumentation Lab	PC	0	0	3	3	2	50	50	100
8.	16BT51032	Signal Processing Lab	PC	0	0	3	3	2	50	50	100
9.	16BT4HS31	Soft Skills Lab	HS	0	0	3	3	2	50	50	100
Total				18	6	9	33	24	330	570	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/ Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
III Year - II Semester											
1.	16BT5HS01	Management Science	HS	3	1	0	4	3	30	70	100
2.	16BT61001	ARM Processors and PIC Microcontrollers	PC	3	1	0	4	3	30	70	100
3.	16BT61002	Process Control Instrumentation	PC	3	1	0	4	3	30	70	100
Interdisciplinary Elective - 2											
4.	16BT60305	Hydraulics and Pneumatics	IDE	3	1	0	4	3	30	70	100
	16BT50308	Mechatronics									
	16BT60341	Thermodynamics and Fluid Mechanics									
	16BT61003	Instrumentation System Design									
Program Elective - 1											
5.	16BT70309	Industrial Robotics	PE	3	1	0	4	3	30	70	100
	16BT70404	Advanced Digital Signal Processing									
	16BT61004	Electromagnetic Theory									
	16BT61005	Opto-Electronics and Laser Instrumentation									
Program Elective - 2											
6.	10BT60207	Advanced Control Systems	PE	3	1	0	4	3	30	70	100
	16BT50403	VLSI Design									
	16BT61006	Aircraft Instrumentation									
	16BT61007	Telemetry and Tele-control									
7.	16BT61031	ARM Processors and PIC Microcontrollers Lab	PC	0	0	3	3	2	50	50	100
8.	16BT61032	Process Control Lab	PC	0	0	3	3	2	50	50	100
9.	16BT61033	Seminar	EEC	0	0	0	0	2	-	100	100
10.	16BT6MOOC	MOOC	-	-	-	-	-	-			
Total				18	6	6	30	24	280	620	900

S. No.	Course Code	Course Title	Course Category	Contact Periods/Week				Credits (C)	Scheme of Examination Max. Marks		
				L	T	P	Total		Internal Marks	External Marks	Total Marks
IV Year - I Semester											
1.	16BT71001	Analytical Instrumentation	PC	3	1	0	4	3	30	70	100
2.	16BT71002	Biomedical Signal Processing	PC	3	1	0	4	3	30	70	100
3.	16BT71003	Industrial Automation	PC	3	1	0	4	3	30	70	100
		Program Elective - 3									
4.	16BT50501	Computer Networks	PE	3	1	0	4	3	30	70	100
	16BT71004	Automotive Instrumentation									
	16BT71005	Computer Control of Process									
	16BT71006	Industrial Electronics									
		Program Elective - 4									
5.	16BT71007	Instrumentation in Petrochemical Industries	PE	3	1	0	4	3	30	70	100
	16BT71008	Intelligent Control									
	16BT71009	Power Plant Instrumentation									
	16BT71010	System Design using Microcontrollers									
		Open Elective	OE	3	1	0	4	3	30	70	100
6.	16BT71031	Analytical and Biomedical Instrumentation Lab	PC	0	0	3	3	2	50	50	100
7.	16BT71032	Industrial Automation Lab	PC	0	0	3	3	2	50	50	100
8.	16BT71033	Comprehensive Assessment	EEC	0	0	0	0	2	-	100	100
Total				18	6	6	30	24	280	620	900

List of Open Electives

Sl. No.	Course Code	Open Elective Course Title	Sl. No.	Course Code	Open Elective Course Title
1.	16BT6HS01	Banking and Insurance	16.	16BT60114	Disaster Mitigation and Management
2.	16BT6HS02	Business Communication and Career Skills	17.	16BT60115	Environmental Pollution and Control
3.	16BT6HS03	Cost Accounting and Financial Management	18.	16BT60116	Planning for Sustainable Development
4.	16BT6HS04	Entrepreneurship for Micro, Small and Medium Enterprises	19.	16BT60117	Professional Ethics
5.	16BT6HS05	French Language	20.	16BT60118	Rural Technology
6.	16BT6HS06	German Language	21.	16BT60308	Global Strategy and Technology
7.	16BT6HS07	Indian Constitution	22.	16BT60309	IPR and Management
8.	16BT6HS08	Indian Economy	23.	16BT60310	Managing Innovation and Entrepreneurship
9.	16BT6HS09	Indian Heritage and Culture	24.	16BT60311	Material Science
10.	16BT6HS10	Indian History	25.	16BT70412	Green Technologies
11.	16BT6HS11	Personality Development	26.	16BT70413	Introduction to Nanoscience and Technology
12.	16BT6HS12	Philosophy of Education	27.	16BT60505	Engineering System Analysis and Design
13.	16BT6HS13	Public Administration	28.	16BT71011	Micro-Electro-Mechanical Systems
14.	16BT60112	Building Maintenance and Repair	29.	16BT61205	Cyber Security and Laws
15.	16BT60113	Contract Laws and Regulations	30.	16BT61505	Bio-informatics

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IV Year - II Semester											
1.	16BT81031	Project Work *	EEC	0	0	0	0	12	100	100	200
Total				0	0	0	0	12	100	100	200


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