

Department of Electrical and Electronics Engineering

Approved Course Structure

Program: B.Tech.-ELECTRICAL AND ELECTRONICS ENGINEERING

Regulations: SVEC-20

Mandatory Induction Program	03 weeks duration
Induction program offered before commencement of the I-Semester coursework	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

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT1BS01	Differential Equations and Multivariable Calculus	3	-	-	3	3	30	70	100
2.	20BT1BS03	Engineering Physics	3	-	-	3	3	30	70	100
3.	20BT10201	Basic Electrical and Electronics Engineering	3	-	-	3	3	30	70	100
4.	20BT10341	Basic Civil and Mechanical Engineering	3	-	-	3	3	30	70	100
5.	20BT1BS32	Engineering Physics Lab	-	-	3	3	1.5	30	70	100
6.	20BT10231	Basic Electrical and Electronics Engineering Lab	-	-	3	3	1.5	30	70	100
7.	20BT10331	Computer Aided Engineering Drawing	-	1	4	5	3	30	70	100
8.	20BT10332	Engineering Workshop	-	-	3	3	1.5	30	70	100
9.	20BT1HSAC	Spoken English(Audit Course)	2	-	-	2	-	-	-	-
Total:			14	1	13	28	19.5	240	560	800

I B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT2BS01	Transformation Techniques and Linear Algebra	3	-	-	3	3	30	70	100
2.	20BT1BS02	Engineering Chemistry	3	-	-	3	3	30	70	100
3.	20BT1HS01	Communicative English	3	-	-	3	3	30	70	100
4.	20BT20201	Electrical Circuits	3	-	-	3	3	30	70	100
5.	20BT20541	Programming in C and Data Structures	3	-	-	3	3	30	70	100
6.	20BT1BS31	Engineering Chemistry Lab	-	-	3	3	1.5	30	70	100
7.	20BT1HS31	Communicative English Lab	-	-	3	3	1.5	30	70	100
8.	20BT20551	Programming in C and Data Structures Lab	-	-	3	3	1.5	30	70	100
9.	20BT1MC01	Universal Human Values (Mandatory Course)	2	-	-	2	-	30	-	30
Total			17	-	09	26	19.5	270	560	830

II B.Tech I–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (c)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT3BS02	Special Functions and Complex Analysis	3	0	0	3	3	30	70	100
2.	20BT30402	Electronic Devices and Circuits	3	0	0	3	3	30	70	100
3.	20BT30201	Electromagnetic Fields	3	0	0	3	3	30	70	100
4.	20BT30202	Electrical Machines-I	3	0	0	3	3	30	70	100
5.	20BT30203	Signals and Networks	3	0	0	3	3	30	70	100
6.	20BT30432	Electronic Devices and Circuits Lab	0	0	3	3	1.5	30	70	100
7.	20BT30231	Electrical Machines-I Lab	0	0	3	3	1.5	30	70	100
8.	20BT30232	Signals and Networks Lab	0	0	3	3	1.5	30	70	100
9.	20BT3HS31	Soft Skills Lab	0	1	2	3	2	30	70	100
Total			15	1	11	27	21.5	270	630	900
10.	20BT3MC01	Environmental Science	2	-	-	2	-	30	-	30

II B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT40441	Analog Electronics	3	0	0	3	3	30	70	100
2.	20BT40201	Control Systems	3	0	0	3	3	30	70	100
3.	20BT40202	Digital Electronics	3	0	0	3	3	30	70	100
4.	20BT40203	Electrical Machines-II	3	0	0	3	3	30	70	100
5.	20BT40204	Electrical measurements	2	0	0	2	2	30	70	100
6.	Open Elective-1		3	0	0	3	3	30	70	100
7.	20BT40451	Analog Electronics Lab	0	0	3	3	1.5	30	70	100
8.	20BT40231	Digital Electronics Lab	0	0	3	3	1.5	30	70	100
9.	20BT40232	Electrical Machines-II Lab	0	0	3	3	1.5	30	70	100
Total			15	1	11	26	21.5	270	630	900
10.	20BT315AC	Design Thinking	2	-	-	2	-	-	-	-

III B.Tech I–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT5HS02	Principles of Business Economics and Accountancy	3	0	0	3	3	30	70	100
2.	20BT40403	Linear and Digital IC Applications	3	0	0	3	3	30	70	100
3.	20BT50201	Transmission and Distribution	3	0	0	3	3	30	70	100
4.	Open Elective-2		3	0	0	3	3	30	70	100
5.	Professional Elective-1									
6.	20BT50202	Energy Audit, Conservation and Management	3	0	0	3	3	30	70	100
7.	20BT50203	Electrical Machine Design								
8.	20BT50204	Energy Systems								
9.	20BT50205	Instrumentation								
10.	20BT50432	Linear and Digital IC Applications Lab	0	0	3	3	1.5	30	70	100
11.	20BT50231	Electrical workshop Practice	0	0	3	3	1.5	30	70	100
12.	20BT50232	Electrical Auditing and conservation Practice lab	0	1	2	3	2	30	70	100
13.	20BT50233	Summer Internship-I	-	-	-	-	1.5	-	100	100
Total			15	1	8	24	21.5	240	660	900
14.	20BT503AC	Foundations of Entrepreneurship	2	-	-	2	-	-	-	-

III B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods				Credits (C)	Scheme of Examination		
			per Week					Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT5HS01	Organizational Behaviour	3	0	0	3	3	30	70	100
2.	20BT60201	Power Electronics	3	0	0	3	3	30	70	100
3.	20BT60202	Power System Operation and Control	3	0	0	3	3	30	70	100
4.	Professional Elective-2									
5.	20BT60203	Advanced Control Systems	3	0	0	3	3	30	70	100
6.	20BT60204	High Voltage Engineering								
7.	20BT60205	PIC Microcontrollers and Applications								
8.	20BT60206	Special Electrical Machines								
9.	Professional Elective-3									
10.	20BT60442	VLSI Design	3	0	0	3	3	30	70	100
11.	20BT60207	Design and Estimation of Electrical Systems								
12.	20BT60208	Distributed Generation and Microgrid								
13.	20BT60209	Smart Grid Technology								
14.	Inter Disciplinary Elective-1									
15.	20BT50442	Principles of Communications	3	0	0	3	3	30	70	100
16.	20BT60410	Microelectromechanical Systems								
17.	20BT61041	Sensors and Signal Conditioning								
18.	20BT60210	Computer Organization and Architecture								
19.	20BT60231	Electrical CAD lab	0	0	3	3	1.5	30	70	100
20.	20BT60232	Electrical Power Systems Lab	0	0	3	3	1.5	30	70	100
21.	20BT60233	ARM Processor and its Interfacing Lab	0	1	2	3	2	30	70	100
Total			18	1	8	27	23	270	630	900
22.	20BT5MC01	Professional Ethics	2	-	-	2	-	30	-	30

IV B.Tech I–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
			1.	20BT70201	Power System Analysis	3		0	0	3
2.	20BT70202	Solid State Drives	3	0	0	3	3	30	70	100
3.	20BT70203	Switchgear and Protection	2	0	0	2	2	30	70	100
4.	Professional Elective-4									
5.	20BT70401	Embedded Systems	3	0	0	3	3	30	70	100
6.	20BT70203	Analysis of Power Electronic Converters								
7.	20BT70204	Electric Vehicles								
8.	20BT70205	Flexible AC transmission system								
9.	Professional Elective-5									
10.	20BT70206	Digital Signal Processing for Electrical Engineering	3	0	0	3	3	30	70	100
11.	20BT70207	Power System Automation								
12.	20BT70208	Power Electronics for Renewable Energy Systems								
13.	20BT70209	Soft Computing Techniques								
14.	Inter Disciplinary Elective-2									
15.	20BT50403	FPGA Architectures and Applications	3	0	0	3	3	30	70	100
16.	20BT60406	Image Processing								
17.	20BT61003	Industrial Data Communication								
18.	20BT71041	PLC and SCADA								
19.	20BT70231	Power electronics and drives lab	0	0	3	3	1.5	30	70	100
20.	20BT70232	Power System Simulation Lab	0	0	3	3	1.5	30	70	100
21.	20BT70233	Summer Internship-II	-	-	-	-	1.5	-	100	100
Total			15	1	8	23	21.5	240	660	900
22.	20BT702AC	Electrical safety and safety management	2	-	-	2	-	-	-	-

IV B.Tech II–Semester

S. No.	Course Code	Course Title	Contact Periods per Week				Credits (C)	Scheme of Examination Max. Marks		
			L	T	P	Total		Int. Marks	Ext. Marks	Total Marks
1.	20BT80231	Project Work	-	-	-	-	12	100	100	200
2.	20BT80232	Internship	-	-	-	-	-	-	-	-
Total			-	-	-	-	12	100	100	200

LIST OF COURSES FOR

OPEN ELECTIVE-1 AND OPEN ELECTIVE-2

Course Code	Open Elective -1	Course Code	Open Elective -2
20BT4BS01	Material Science	20BT4HS01	Banking and Insurance
20BT4HS02	Business Communication and Career Skills	20BT4HS03	Cost Accounting and Financial Management
20BT4HS04	Entrepreneurship for Micro, Small and Medium Enterprises	20BT4HS05	Gender and Environment
20BT4HS06	German Language	20BT4HS07	Indian Economy
20BT4HS08	Indian History	20BT4HS09	Life Skills
20BT4HS10	Personality Development	20BT4HS11	Indian Tradition and Culture
20BT4HS12	Women Empowerment	20BT4HS13	Constitution of India
20BT40205	Reliability and Safety Engineering	20BT50106	Disaster Mitigation and Management
20BT40105	Environmental Pollution and Control	20BT50107	Sustainable Engineering
20BT40106	Planning for Sustainable Development	20BT50108	Contract Laws and Regulations
20BT40107	Rural Technology	20BT50310	Global Strategy and Technology
20BT40305	Human Resource Management	20BT50311	Management Science
20BT50506	Ethical Hacking	20BT40502	Cyber Laws and Security
20BT51205	AI in Healthcare	20BT50206	Intellectual Property Rights
20BT51501	Bioinformatics	20BT50406	Green Technologies



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