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Class: S. Y. B. Tech   **Semester: III**

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks)		Practical (Marks)		
							Max	Min. for passing %	Max.	Min. for passing%
SH2093	Engineering Mathematics –III	3	1	-	4	ISE	20	40	----	----
						UT1	15		----	----
						UT2	15	40	----	---
						ESE	50	40	----	----
EE2013	DC Machines and Transformer	3	1	-	4	ISE	20		----	----
						UT1	15	40	----	----
						UT2	15	40	----	----
						ESE	50	40	----	----
EE2033	Electrical Circuit Analysis	3	1	-	4	ISE	20		----	----
						UT1	15	40	----	----
						UT2	15	40	----	----
						ESE	50	40	----	----
EE2053	Analog Electronics	2	-	-	2	ISE	20		----	----
						UT1	15	40	----	----
						UT2	15	40	----	----
						ESE	50	40	----	----
EE2073	Electrical Measurement and Instrumentation	3	-	-	3	ISE	20		----	----
						UT1	15	40	----	----
						UT2	15	40	---	----
						ESE	50	40	----	----
EE2513	DC Machines and Transformer Lab	-	-	2	1	ISE	----	----	50	50
						ESE	----	----	50	50
EE2533	Electrical Measurement and Instrumentation Lab	-	-	2	1	ISE	----	----	100	50
						ESE	----	----	100	50
EE2553	Analog Electronics Lab	-	-	2	1	ISE	----	----	100	50
						ESE	----	----	100	50
EE2573	Computer Programming Lab	--	1	2	2	ISE	---	----	100	50
EE2593	Technical Aptitude-I	-	-	2	1	ESE	100	50	----	----
	Open Elective- II Choice Based Soft Skill Program-I	-	-	2	1	ISE	-	-	-	100	50
	TOTAL	**14**	**4**	**12**	**24**					

ISE = In Semester Evaluation, MSE (UT1+UT2)   UT-1 = Unit Test-I,   UT-2 = Unit Test-II   ESE = End Semester Examination
Total Contact Hours/week : 30   **Note*: One extra lecture to be allotted to Environment Science in time Table.**
Total Credits   : 24
Technical Aptitude Courses: Engineering Mathematics, DCMT, ECA EMI

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Open Elective II

Sr. No.	Subject Name		Course Code
1.	Choice Based Soft Skill Program-I & II	Personal Effectiveness & Body Language	SH2593
2.		Interpersonal Skills (Work life Balance)	SH2613
3.		Leadership & Public Speaking	SH2633
4.		Innovation Tools and Methods for Entrepreneurs	SH2693
5.		German Language – Basic Level	SH2733
6.		Japanese Language – Basic Level	SH2713

Note:

1. A student has to complete any two courses out of six choices offered under Choice Based Soft Skills Programme. A course in each semester will be allocated without any repetition.

2. The students who have completed 'German Language Lab' or 'Japanese Language Lab' in F.Y. B. Tech should not give their choice for 'German Language – Basic Level' and 'Japanese Language – Basic Level'. Such students may give their choices for 'German Language – Advanced Level' and 'Japanese Language – Advanced Level' (batch sizes 40 each) in the S.Y. B. Tech Sem-IV only.

3. The students who will select and will successfully complete 'German Language – Basic Level' and 'Japanese Language – Basic Level' in S.Y. B. Tech Sem-III will by default (mandatorily) appear for Advance Levels of said courses in Semester-IV.

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Class: S. Y. B. Tech   **Semester:** IV

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks)		Practical (Marks)		
							Max	Min. for passing%		Max	Min.for passing%
EE2023	AC Machines	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE2043	Power System Transmission and Distribution	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE2063	Digital Electronics	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			--	---
						UT2	15			---	---
						ESE	50	40		---	---
EE2083	Signals and Systems	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			--	---
						ESE	50	40		---	---
CE2263	Engineering Mechanics	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
SH2173	Environmental Science	1*	-	-	1	ISE	50	40	40	----	---
						ESE	50	40		----	
EE2523	AC Machines Lab	-	-	2	1	ISE	---	----		50	50
						ESE	---	----		50	50
EE2543	Digital Electronics Lab	-	-	2	1	ISE	---	----		50	50
						ESE	---	----		50	50
CE2283	Engineering Mechanics Lab	-	-	2	1	ISE	---	----		100	50
SH2603	Environmental Science Project	-	-	2	1	ISE	---	----		100	50
EE2563	Technical Aptitude-II	-	-	2	1	ESE				100	50
	Open Elective- III Choice Based Soft Skill Program-II	-	-	2	1	ISE	- -	- -	--	100	50
	TOTAL	**16**	**-**	**12**	**22**						

ISE = In Semester Evaluation MSE (UT1+UT2)   UT-1 = Unit Test-I,   UT-2 = Unit Test-II

ESE = End Semester Examination

Total Contact Hours/week   **: 28**
Total Credits   **: 22**
Note*: One extra lecture to be allotted to Environmental Science in time Table.
Note: Students are required to undergo industrial / field training of minimum four weeks in the vacation of Semester-IV and its evaluation will be carried out in the Semester-V

Technical Aptitude Courses   **: ACM, PTDS, DE and SS**

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Open Elective III

Sr. No.	Subject Name		Course Code
1.	Choice Based Soft Skill Program-I & II	Personal Effectiveness & Body Language	SH2593
2.		Interpersonal Skills (Work life Balance)	SH2613
3.		Leadership & Public Speaking	SH2633
4.		Innovation Tools and Methods for Entrepreneurs	SH2693
5.		German Language – Advanced Level	SH2643
6.		Japanese Language – Advanced Level	SH2623

Note:

1. A student has to complete any two courses out of six choices offered under Choice Based Soft Skills Programme. A course in each semester will be allocated without any repetition.
2. The students who have completed 'German Language Lab' or 'Japanese Language Lab' in F.Y. B.Tech should not give their choice for 'German Language – Basic Level' and 'Japanese Language – Basic Level'. Such students may give their choices for 'German Language – Advanced Level' and 'Japanese Language – Advanced Level' (batch sizes 40 each) in the S.Y. B. Tech. Sem-IV only.
3. The students who will select and will successfully complete 'German Language – Basic Level' and 'Japanese Language – Basic Level' in S.Y. B.Tech Sem-III will by default (mandatorily) appear for Advance Levels of said courses in Semester-IV.

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Class: T. Y. B. Tech **Semester: V**

Course Code	Course	L	T	P	Credits	Scheme	Theory (Marks) Max	Theory Min. for Passing %		Practical (Marks) Max	Practical Min. for passing%
EE3013	Electromagnetic Fields	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE3033	Power System Analysis	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE3053	Control Systems	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE3073	Microprocessors and Microcontroller	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Program Elective-I	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE3513	Control Systems Lab	-	-	2	1	ISE	---	---		50	50
						ESE	---	---		50	50
EE3533	Microprocessors and Microcontroller Lab	-	-	2	1	ISE	---	---		50	50
						ESE	---	---		50	50
EE3553	Technical Aptitude-III	-	-	2	1	ESE	100	50		--	--
SH3033	Scholastic Aptitude I	2*	-	-	2	ISE	20	40	40	---	----
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE3573	Summer Internship (4 Weeks)	-	-	-	2	ISE	---	---	---	100	50
SH3011	Indian Constitution	2	-	-	Audit	ISE	100	50	(P/N)		
	TOTAL	19	-	6	22						

ISE = In Semester Evaluation, MSE (UT1+UT2)   UT-1 = Unit Test-I,   UT-2 = Unit Test-II ESE = End Semester Examination

Total Contact Hours/week   **: 25**
Total Credits   **: 22**

Note*: One extra lecture to be allotted to Scholastic Aptitude-I in time Table.

Technical Aptitude Courses   **: EMF, PSA, CS and MPMC**

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Program Elective-I

Sr.No	Course Code	Domain	Course
1.	EE3093	**Power and Energy Systems**	Energy Storages Technologies
2.	EE3113		Electrical Utilization and Traction
3.	EE3133	**Drives and Control**	Digital Signal Processing
4.	EE3153		Electrical Machine Design

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Class: T. Y. B. Tech   **Semester:** VI

Course Code	Course	L	T	P	Credits	Scheme	Theory (Marks) Max	Theory Min. for passing %	Practical (Marks) Max	Practical Min. for passing %
EE3023	Power System Operation and Control	3	-	-	3	ISE	20		---	---
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
EE3043	Power Electronics	3	-	-	3	ISE	20		---	---
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
	Program Elective-II	3	-	-	3	ISE	20		---	---
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
	Open Elective-IV	3	-	-	3	ISE	20		---	---
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
SH3021	Biology for Engineers	3	-	-	3	ISE	20		---	---
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
EE3523	Modeling and Simulation Lab	-	-	2	1	ISE	---	---	50	50
						ESE	---	---	50	50
EE3543	Power Electronics Lab			2	1	ISE	---	---	50	50
						ESE	---	---	50	50
EE3563	Technical Aptitude-IV	-	-	2	1	ESE			100	50
EE3583	Capstone Project phase-I	-	-	4	2	ISE	---	---	100	50
SH304	Psychology for Engineers	1*	-	-	1	ISE	50	40	---	--
						ESE	50	40	--	--
SH3053	Scholastic Aptitude II	2*	-	-	2	ISE	20		---	----
						UT1	15	40	---	---
						UT2	15		---	---
						ESE	50	40	---	---
	TOTAL	18	-	10	23					

ISE = In Semester Evaluation, MSE (UT1+UT2) UT-1 = Unit Test-I, UT-2 = Unit Test-II   ESE = End Semester Examination

Total Contact Hours/week   **: 28**
Total Credits   **: 23**
Note*: One extra lectures to be allotted to scholastic Aptitude-II and Psychology for Engineers in time Table.
Technical Aptitude Courses: PSOC, PE CS and MPMC

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Program Elective – II

Sr. No.	Course Code	Discipline	Course
1.	EE3063	**Power and Energy Systems**	Electrical Energy Conservation and Auditing
2.	EE3083		Electric and Hybrid Electric Vehicles
3.	EE3103	**Drives and Control**	Advanced Control Systems
4.	EE3123		Application of Microcontrollers in Electrical Engineering

Open Elective-IV

Sr. No.	Branch	Course Code	Open Elective-IV Courses
1	Automobile	OE3023	Reliability Engineering
2	Automobile	OE3043	Renewable Energy Source
3	Civil	OE3063	Environmental Impact Assessment
4	Civil	OE3083	Material Management.
5	Computer	OE3103	Network Administration
6	Computer	OE3123	Information Technology Foundation Program
7	E&TC	OE3143	Mechatronics
8	Electrical	OE3163	Engineering Materials
9	Electrical	OE3181	Industrial Drives
10	CS&IT	OE336	Neural Network and Deep Learning
11	CS&IT	OE3221	Cyber Forensics
12	MBA	OE3243	Marketing for Engineers
14	Mechanical	OE3263	Aircraft Systems
15	Mechanical	OE3283	Supply Chain Management
16	Mechanical	OE3301	New Product Design and Development
17	Mechanical	OE3323	Entrepreneurship Development
18	Mechanical	OE3341	Research Methodology

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Class: Final Year B. Tech   **Semester: VII**

Course Code	Course	L	T	P	Credits	Scheme	Theory (Marks) Max.	Theory (Marks) Min. for passing %		Practical (Marks) Max.	Practical (Marks) Min. for passing %
EE4013	Power System Protection	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE4033	Electrical Drives	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Program Elective-III	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Program Elective-IV	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Program Elective V	3	-	-	3	ISE	20	40	40	--	---
						UT1	15			--	---
						UT2	15			---	---
						ESE	50			---	---
EE4513	Power System Protection Lab	-	-	2	1	ISE	---	---		50	50
						ESE				50	50
EE4533	Electrical Drives Lab	-	-	2	1	ISE	---			50	50
						ESE				50	50
EE4553	Wind Solar Lab	-	-	2	1	ISE	---	----		100	50
EE4573	Control and Automation Lab	-	-	2	1	ISE	---	----		50	50
						ESE	---	---		50	50
EE4593	Capstone Project Phase-II	-	-	8	4	ISE	--	---		100	50
						ESE	--	---		100	50
	TOTAL	15	-	16	23						

ISE = In Semester Evaluation, MSE (UT1+UT2)   UT-1 = Unit Test-I, UT-2 = Unit Test-II   ESE = End Semester Examination

Total Contact Hours/week   : **31**
Total Credits   : **23**

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Program Elective-III

Sr.No.	Course Code	Discipline	Course
1.	EE4053	**Power and Energy Systems**	Power System Dynamics and Control
2.	EE4073		HVDC Transmission Systems
3.	EE4093	**Drives and Control**	Nonlinear Control Systems
4.	EE4113		FACTS Controllers

Program Elective-IV

Sr.No.	Course Code	Discipline	Course
1.	EE4133	**Power and Energy Systems**	High Voltage Engineering
2.	EE4153		Power Quality and Harmonics
3.	EE4173	**Drives and Control**	Smart Grids
4.	EE4113		FPGA DSP Processors

Program Elective-V

Sr. No.	Course Code	Domain	Course
1	EE4133	**Power and Energy Systems**	Computer Modelling of Electrical Power System
2	EE4153		Power System Optimization
3	EE4173	**Drives and Control**	Battery Management System
4	EE4153		Advanced Power Electronics

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Track I: Industry Internship & Projects (IIP)

Class: Final Year B. Tech   **Semester:** VIII

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks)			Practical (Marks)	
							Max.	Min. for passing%		Max.	Min. for passing%
OE4381	Finance for Engineers (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
OE4361	Engineering Management & Economics (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
IP4023	Internship & Project	-	-	-	8	ISE	---	----		50	50
						ESE	---	---		50	50
	TOTAL	-	-	-	**12**						

ISE = In Semester Evaluation, ESE = End Semester Examination

Total Contact Hours/week   : -
Total Credits   : **12**

Note:
1] Weekly Contact hours are not mentioned for IP4023 as student is expected to be in industry regularly for 20 weeks. However, student needs to report to Institute mentors as and when required.

2] For online course, lecture videos of each unit will be made available through college platform to the students. For each unit there will be separate assignment. Students need to submit all assignments within specified time.
Weightage: 25% weightage for unit wise assignments + 75% weightage for final exam. Final exam will be held at college campus.

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Track II: Undergraduate Research Experience (URE)

Class: Final Year B. Tech   **Semester: VIII**

Course Code	Course	Teaching Scheme				Evaluation Scheme						
		L	T	P	Credits	Scheme	Theory (Marks)			Practical (Marks)		
							Max.	Min. for passing%		Max.	Min. for passing%	
OE4381	Finance for Engineers (Online Course)	2	-	-	2	ISE	25	40	40	---	---	
						ESE	75	40		---	---	
OE4361	Engineering Management & Economics (Online Course)	2	-	-	2	ISE	25	40	40	---	---	
						ESE	75	40		---	---	
RE4043	Research Project	-	-	8	8	ISE	---	----		50	50	
						ESE	---	---		50	50	
	TOTAL	-	-	8	12							

ISE = In Semester Evaluation, UT-1 = Unit Test-I, UT-2 = Unit Test-II ESE = End Semester Examination

Total Contact Hours/week : 08
Total Credits `: 12

Note:
1] For online course, lecture videos of each unit will be made available through college platform to the students. For each unit there will be separate assignment. Students need to submit all assignments within specified time.

Weightage: 25% weightage for unit wise assignments + 75% weightage for final exam. Final exam will be held at college campus.

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Track III: Entrepreneurship Development (ED)

Class: Final Year B. Tech   **Semester:** VIII

Sr.No	Course Code	Course	Teaching Scheme			Credits	Scheme	Theory (Marks)			Practical (Marks)	
			L	T	P			Max	Min. for passing %		Max	Min. for passing%
1	ED4103	Project Management	2*	-	-	2	ISE	20	40	40		
							UT-1	15				
							UT-2	15				
							ESE	50	40			
2	ED4043	Commercial Aspects of the Project	2*	-	-	2	ISE	20	40	40		
							UT-1	15				
							UT-2	15				
							ESE	50	40			
3	ED4063	Entrepreneurship Development Program (EDP)	-	-	-	1	ISE				100	50
4	ED4083	Entrepreneurship Development Project	-	-	7	7	ISE				50	50
							ESE				50	
		Total	4	-	7	12						

ISE = In Semester Evaluation, UT-1 = Unit Test-I, UT-2 = Unit Test-II   ESE = End Semester Examination

Total Contact Hours/week   : 11
Total Credits   : 12

Note:

1] * One extra lecture to be allotted to Project Management and Commercial Aspects of the Project course in time table