

Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur) Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

S. Y. B. Tech Class:

Semester: III

SH2093	Course Engineering Mathematics –III DC Machines and Transformer	L 3	T 1	P -	4 Credits	Scheme TT1	Theory (M Max	Min. for passing		Practi (Mark Max.	
SH2093	Mathematics –III	3	25000	-		ISE	20	passing			passing%
SH2093	Mathematics –III		1	-	1						-
SH2093	Mathematics –III		1	-	1	LIT1	1.5				The second secon
				_			15	40	40		
EE2013	DC Machines and Transformer	3			-	UT2	15		1 70		
EE2013	DC Machines and Transformer	3	l			ESE	50	40			
EE2013	DC Machines and Transformer	3	l			ISE	20				
EE2013 .	DC Machines and Transformer	1 3	1	-	4	UT1	15	40	40		
		178	1	-	4	UT2	15	40	40		
	· ·					ESE	50				
						ISE	20	Solicia.			
FEO022	Electrical Circuit Amelonia	2	1		4	UT1	15	40	40		
EE2033	Electrical Circuit Analysis	3	1	-	4	UT2	15	1	40		
						ESE	50	40			
						ISE	20				
		_			_	UTI	15	40			
EE2053	Analog Electronics	2	-	-	2	UT2	15	1	40		
						ESE	50	40	1		(****)
						ISE	20			I	
EE2072]	Electrical Measurement and	2		-	٠, ١	UT1	15	40 40	40		
EE2073	Instrumentation	3	-	-	3	UT2	15		40		
						ESE	50	40	1		
EE2513	DC Machines and Transformer			2	1	ISE				50	50
EE2313]	Lab	-	-	2	1	ESE				50	50
PPosos	Electrical Measurement and			_	-	ISE				100	50
EE2533 I	Instrumentation Lab	-	-	2	1	ESE				100	50
						ISE				100	50
EE2553	Analog Electronics Lab	-	-	2	1	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
	ГОТАЬ	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

Technical Aptitude Courses: Engineering Mathematics, DCMT, ECA EMI





Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Curriculum Structure and Evaluation Scheme

With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

Open Elective II

Sr. No.		Subject Name	Course Code
1.		Personal Effectiveness & Body Language	SH2593
2.	Choice Based Soft Skill	Interpersonal Skills (Work life Balance)	SH2613
3.	Program-I & II	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.



Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur) Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

S. Y. B. Tech Class:

Semester: IV

Course	Course		Tea	chin	g			Eval	ation S	Schem	e
Code				heme					terion y	- CHUIII	•
Couc		-	T	Leme	1	-	Theory	(Marl	(e)	Proct	ical (Marks)
		L	T	P	Credits	Schem	Theory	(Mari	(8)	Fract	icai (Marks)
	8	~	1	1	red	che	Max	Min.	for	Max	Min.for
					0	o o		pass	ing%		passing%
						ISE	20				
EE2023	AC Machines	3	-	_	3	UT1	15	40	40		
LL2023	AC Machines		-	-		UT2	15		_ 40		
						ESE	50	40	-		
						ISE	20				
EE2043	Power System Transmission	3	-	_	3	UT1	15	40	40		
	and Distribution	1				UT2	15	1	1		
		-	-		-	ESE	50	40			
						ISE	20				
EE2063	Digital Electronics	3	-	-	3	UT1	15	40	40		
	8					UT2	15	-	_		
			-		-	ESE	50	40			
						ISE	20	10			
EE2083	Signals and Systems	3	-	-	3	UT1 UT2	15 15	40	40		
					1	ESE	50	40	-		
		-	\vdash			ISE	20	40			
						UT1	15	40		-	
CE2263	Engineering Mechanics	3	-		3	UT2	15	170	40		
	0.00	1				ESE	50	40	1		
				<u> </u>	1	ISE	50	40			
SH2173	Environmental Science	1*	-	-	1				40		
						ESE	50	40			
EE2523	AC Machines Lab	_	_	2	1	ISE		-		50	50
22222	110111111111111111111111111111111111111	150				ESE				50	50
EE2543	Digital Electronics Lab	-	_	2	1	ISE		 		50	50
	- 3			-		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 : 22

Total Credits

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

Page 3 of 13



Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme
With effective from 2020-21 [2020-24 & 2021-25 Batch]
Department of Electrical Engineering

Open Elective III

Sr. No.		Subject Name	Course Code		
1.		Personal Effectiveness & Body Language	SH2593		
2.		Interpersonal Skills (Work life Balance)			
3.	Choice Based Soft Skill	Leadership & Public Speaking	SH2633		
4.	Program-I & II	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.



Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur) Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

T. Y. B. Tech Semester: V

Course	Course		Te	ach	ing			Eva	luation	Scheme	
Code				her							
		L	T	P	Т	eme	Theory (N		P11	Practical (Marks)
					Credits	Scheme	Max		i. for sing %	Max	Min. for passing%
	120					ISE	20				
EE3013	Electromagnetic Fields	3	_	_	3	UTI	15	40	40		
LLSUIS	Electioning netter Fields		3986	1000		UT2	15	10			
		-	-	-		ESE	50	40			
						ISE	20 15	40			
EE3033	Power System Analysis	3	-		3	UT1 UT2	15	40	40		
	E					ESE	ALEXANDER OF THE PROPERTY OF T	-			
	7-1	-				ISE	20	10			
						UTI	15	40			
EE3053	Control Systems	3	-	-	3	UT2	15	1	40		
						ESE	50	40			
						ISE	20				
EE2072	Microprocessors and Microcontroller	3		1	3	UTI	15	40	40		
EE3U/3		3	=0	-)	UT2	15		40		
						ESE	50	40			
				-		ISE	20				
	December Elective I	2			3	UT1	15	40	40		
	Program Elective-I	3	-		3	UT2	15		40		
						ESE	50	40	7		
EE3513	Control Contains Lab			2	1	ISE				50	50
EE3513	Control Systems Lab	-	-	2	1	ESE				50	50
EE2522	Microprocessors and			2	1	ISE				50	50
EE3533	Microcontroller Lab	-		2	1	ESE				50	50
EE3553	Technical Aptitude-III	-	-	2	1	ESE	100		50		
						ISE	20			`	
CITADAA	Calada dia Amilia da T	2*				·UT1	15	40	40		
SH3033	Scholastic Aptitude I	2*	-	-	2	UT2	15	1	40		
			f 1 1 L	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

Total Credits

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

Technical Aptitude Courses : EMF, PSA, CS and MPMC

Page **5** of **13**



K.E. Society's
Rajarambapu Institute of Technology, Rajaramnagar
(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch] Department of Electrical Engineering

Program Elective-I

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



Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur) Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

Class: T. Y. B. Tech

Semester: VI

				chin hem				Eval	uation S	cheme	
Course Code	Course				its	Je	Theory (Mark	s)	Pract	tical (Marks)
Code		L	T	P	Credits	Scheme	Max	20,400,000,000	n. for sing %	Max	Min. for passing %
						ISE	20				
EE3023	Power System Operation	3	_	_	3	UT1	15	40	40		
LL3023	and Control			-		UT2	15				
				<u></u>		ESE	50	. 40			
	1					ISE	20				
EE3043	Power Electronics	3	_	-	3	UT1	15	_ 40	40		
EE5015	1 6 Wei Electronies					UT2	15		_ 40		
						ESE	50	40			
			1			ISE	20				
	Program Elective-II	3	-	_	3	UT1	15	40	40		
	1 ogrum Electric II			500		UT2	15		_ +0		
		-				ESE	50	40			
						ISE	20				
	Open Elective-IV	3	_	_	3	UT1	15	40	40		
						UT2	15				
						ESE	50	40			
	Biology for Engineers					ISE	20				
SH3021		3	-	_	3	UT1	15	40	40		
						UT2	15				
	1	-				ESE	50	40			
EE3523	Modeling and Simulation	-		2	1	ISE		_		50	50
	Lab					ESE				50	50
EE3543	Power Electronics Lab			2	1	ISE				50	50
				20.00		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		
	, , , , , , , , , , , , , , , , , , , ,	ļ <u> </u>			-	ESE	50		40		
						ISE	20]			
SH3053	Scholastic Aptitude II	2*		-	2	UT1	15	40	40		
כנטנחט						UT2	15		40		
						ESE	50	40			
	TOTAL	18	_	10	23		2 8		-30 - 3		

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

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

Page **7** of **13**

K.E. Society's
Rajarambapu Institute of Technology, Rajaramnagar
(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch] Department of Electrical Engineering

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		Advanced Control Systems
4.	EE3123	Drives and Control	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



Page 8 of 13

Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Curriculum Structure and Evaluation Scheme

With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

Class: Final Year B. Tech Semester: VII

Class.	Tillal Teal D. Tech	1	m-	-1.		Semester: V							
				ichin hem				Evalua	ation S	Scheme	:		
Course Code	Course				lits	me		heory (arks)		Pra	ctical (Marks)		
		L	T	P	Credits	Scheme	Max.	Min. passi	for ng %	Max.	Min. for passing %		
						ISE	20						
EE4013	Power System	3			3	UT1	15	40	10				
EE4013	Protection	3	-	-	3	UT2	15		40				
						ESE	50	40					
						ISE	20						
EE4033	Electrical Drives	3	200	-	3	UT1	15	40	40				
EE4033	Electrical Drives	3	-	-	3	UT2	15		40				
						ESE	50	40					
						ISE	20		40				
	Program Elective-III	3	-	_	3	UT1	15	40					
	I CORRECT TO SERVICE S	3			3	UT2	15						
						ESE	50	40					
						ISE	20						
	Program Elective-IV	3	1000		3	UT1	15 -	40	40				
		3	-	-	3	UT2	15		40				
						ESE	50	40					
			-			ISE	20						
	D	2		-		UT1	15	40			~ ~ ~		
	Program Elective V	3			3	UT2	15		40				
						ESE	50						
EE4513	Power System		_	2	1	ISE			-	50	50		
EE4313	Protection Lab	-			1	ESE				50	50		
EE4533	Electrical Drives Lab	_	_	2	1	ISE				50	50		
LL1333	Electrical Direct Lab				1	ESE				50	50		
EE4553	Wind Solar Lab	-	-	2	1	ISE				100	50		
EE4573	Control and			2	1	ISE				50	50		
EE43/3	Automation Lab	1	-		1	ESE			-	50	50		
EE4593	Capstone Project Phase-II	1	-	8	4	ISE			-	100	50		
1	Phase-II					ESE			-	100	50		
	TOTAL	15	-	16	23			I EC					

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



Page **9** of **13**



K.E. Society's
Rajarambapu Institute of Technology, Rajaramnagar
(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme With effective from 2020-21 [2020-24 & 2021-25 Batch] Department of Electrical Engineering

Program Elective-III

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

Program Elective-IV

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

Program Elective-V

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





Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Curriculum Structure and Evaluation Scheme

With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

Track I: Industry Internship & Projects (IIP)

Semester: VIII

Class: Final Year B. Tech

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

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.





Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)

Curriculum Structure and Evaluation Scheme

With effective from 2020-21 [2020-24 & 2021-25 Batch]

Department of Electrical Engineering

Track II: Undergraduate Research Experience (URE)

Class: Final Year B. Tech

Semester: VIII

Course Code	Course		Teaching Scheme				Evaluation Scheme							
			ar.	P	Credits	Scheme	Theory (Marks)			Practical (Marks)				
			Т				Max.	Min. f passin		Max.	Min. for passing%			
OE4381	Finance for Engineers (Online Course)	2	-	-	2	ISE	25	40	40					
						ESE	75	40						
OE4361	Engineering Management &	2	-	-	2	ISE	25	40	40					
	Economics (Online Course)					ESE	75	40						
RE4043	Dagaarah Droigat	-	-	8	8	ISE				50	50			
	Research Project				0	ESE		20-01 k.		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.



Page 12 of 13



Rajarambapu Institute of Technology, Rajaramnagar

(An Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme
With effective from 2020-21 [2020-24 & 2021-25 Batch]
Department of Electrical Engineering

Track III: Entrepreneurship Development (ED)

Class: Final Year B. Tech

Semester: VIII

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

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

ESE = End Semester

Examination

Total Contact Hours/week

Total Credits

: 11

: 12

Note:

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

Solution of the state of the st