K.E. Society's
Rajarambapu Institute of Technology, Rajaramnagar
(An Empowered Autonomous Institute, affiliated to Shivaji University, Kolhapur)
Curriculum Structure and Evaluation Scheme
To be implemented for 2023-27 NEP Batch
Department of Electrical Engineering
Rev: EE Course Structure/RIT/05/2023-27

B.Tech. in Electrical Engineering with Multidisciplinary Minor

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Department of Electrical Engineering

Rev: EE Course Structure/RIT/05/2023-27

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (%Marks) Max	Theory (%Marks) Min. for passing		Practical (%Marks) Max.	Practical (%Marks) Min. for passing
EE2014	DC Machines and Transformer	3	-	-	3	ISE	20	40	40	----	----
						UT1	15			----	----
						UT2	15			----	---
						ESE	50	40		----	----
EE2034	Electrical Circuit Analysis	3	-	-	3	ISE	20	40	40	----	----
						UT1	15			----	----
						UT2	15			----	----
						ESE	50	40		----	----
EE211	Mathematics for Electrical Engineers	3	-	-	3	ISE	20	40	40	----	----
						UT1	15			----	----
						UT2	15			----	----
						ESE	50	40		----	----
EE213	Power Transmission and Distribution Systems	3	-	-	3	ISE	20	40	40	----	----
						UT1	15			----	----
						UT2	15			----	----
						ESE	50	40		----	----
	Multidisciplinary Minor-I	3	-	-	3	ISE	20	40	40	----	----
						UT1	15			----	----
						UT2	15			----	----
						ESE	50	40		----	----
SH2174	Environmental Science	1	-	2	2	ISE	50	40	40	--	---
						ESE	50	40		--	--
EE2514	DC Machines and Transformer Lab	-	-	2	1	ISE	----	----		50	50
						ESE	----	----		50	50
EE2574	Computer Programming Lab	-	-	2	1	ISE	----	----		50	50
						ESE	--	--		50	50
EE261	Electrical Maintenance and Troubleshooting	-	-	2	1	ISE	----	----		100	50
EE2594	Technical Aptitude-I	-	-	2	1	ESE	--	---		100	50
	Professional Skills Development and Foreign Languages	-	-	2	1	ISE	-	-	-	100	50
	TOTAL	**16**	**-**	**12**	**22**						
	TOTAL CONTACT HOURS	**28**									

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : **28**

Total Credits : **22**

Technical Aptitude Courses : DC Machines and Transformer, Electrical Circuit Analysis, Power Transmission and Distribution Systems, Mathematics for Electrical Engineers

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Sr. No.	Subject Name		Course Code
1.	Professional Skills Development and Foreign Languages	Professional Leadership Skills	SH2634
2.		Interpersonal Skills	SH2614
3.		Innovation Tools and Methods for Entrepreneurs	SH2694
4.		Personal Effectiveness and Body Language	SH2594
5.		German Language – Level III	SH2734
6.		Japanese Language – Level III	SH2714

Note:

1. A student has to complete any two courses out of six choices offered under Choice Based Professional Skills Development Programme. A course in each semester will be allocated without any repetition.
2. Foreign Language course selected in F. Y. B. Tech Sem-I will remain the same with next levels in Sem-III & IV. (No new entries in S. Y. B. Tech Sem-III)

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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
EE2064	Analog and Digital Electronics	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE2024	AC Machines	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE214	Electrical Measurement and Instrumentation	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			--	---
						UT2	15			---	---
						ESE	50	40		---	---
EE2084	Signals and Systems	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			--	---
						UT2	15			---	---
						ESE	50	40		---	---
	Multidisciplinary Minor-II	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Modern Indian Language	2	-	-	2	ISE	100	50		--	--
EE2524	AC Machines Lab	-	-	2	1	ISE	---	----	--	50	50
						ESE	--	--	--	50	50
EE2544	Analog and Digital Electronics Lab	-	-	2	1	ISE	---	----	--	50	50
						ESE	---	----	--	50	50
EE262	Electrical Measurement and Instrumentation Lab	-	-	2	1	ISE	---	----	--	100	50
EE264	Electrical Installation	-	-	2	1	ISE	---	----		100	50
EE2564	Technical Aptitude-II	-	-	2	1	ESE	---	--		100	50
	Professional Skills Development and Foreign Languages	-	-	2	1	ISE	-	-	--	100	50
	TOTAL	**17**	-	**12**	**23**						
	TOTAL CONTACT HOURS	**29**									

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : **29**

Total Credits : **23**

Technical Aptitude Courses : Analog and Digital Electronics, AC Machines, Electrical Measurement and Instrumentation, Signals and Systems

Note: Students are required to undergo industrial / field training of minimum two weeks in the vacation of Semester-IV and its evaluation will be carried out in the Semester-V.

Sr. No.	Subject Name		Course Code
1.	Professional Skills Development and Foreign Languages	Professional Leadership Skills	SH2634
2.		Interpersonal Skills	SH2614
3.		Innovation Tools and Methods for Entrepreneurs	SH2694
4.		Personal Effectiveness and Body Language	SH2594
5.		German Language – Level IV	SH2644
6.		Japanese Language – Level IV	SH2624

Sr. No.	Subject Name		Course Code
1	Modern Indian Language	मराठी भाषिक कौशल्यविकास	SH202
2		हिंदी कथा साहित्य एवं प्रयोजमूलक हिंदी	SH204

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (%Marks) Max	Theory (%Marks) Min. for Passing		Practical (%Marks) Max	Practical (%Marks) Min. for passing
EE3034	Power System Analysis	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE313	Feedback Control System	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
EE315	Microcontroller & Its Applications	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Program Elective -I	2	-	-	2	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Open Elective-I	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Multidisciplinary Minor-III	3	-	-	3	ISE	20	40	40	---	---
						UT1	15			---	---
						UT2	15			---	---
						ESE	50	40		---	---
	Multidisciplinary Minor-IV	1	-	2	2	ISE	--	--	--	50	50
						ESE	--	--	--	50	50
SH3035	Scholastic Aptitude-I	2*			Audit	ISE	100	50 (P/NP)	--	--	--
EE361	Feedback Control System Lab	-	-	2	1	ISE	--	--	--	50	50
						ESE	--	--	--	50	50
EE363	Microcontroller Lab	-	-	2	1	ISE	---	---	--	50	50
						ESE	---	---	--	50	50
EE359	Advanced Software Lab	-	-	2	1	ISE	---	---	--	100	50
EE365	Industrial Training	-	-	-	1	ISE	---	---	---	100	50
EE367	MOOCS-II**	-	-	-	1	ISE	---	---	---	100	50
	TOTAL	**18+2* = 20***	**-**	**08**	**24**						
	TOTAL CONTACT HOURS	**28***									

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam, P = Pass, NP = Not Pass

Total Contact Hours/week : 28*
Total Credits : 24

Note*: Students should complete 5 days (30 Hours) of Scholastic Aptitude training program organized by the Institute.
Note:** MOOCS-II course certification marks will be caried out for the credits

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Program Elective-I

Sr. No	Course Code	Domain	Course
1	EE3094	**Power and Energy Systems**	Energy Storages Technologies
2	EE3114		Restructured Power System
3	EE3134	**Drives and Control**	Digital Signal Processing
4	EE3154		Electrical Utilization and Traction

Open Elective I			
Sr. No.	**Course Code**	**Open Elective Subject Name**	**Offered by the department**
1	OE3044	Renewable Energy Sources	Robotics & Automation
2	OE3064	Environmental Impact Assessment	Civil Engineering
3	OE3104	Network Administration	Computer Science and Engineering
4	OE3381	Disaster Management	Civil Engineering
5	OE341	Energy Audit and Management	Electrical Engineering
6	OE343	Data Science	Computer Science & Engineering (Artificial Intelligence and Machine Learning)
7	OE365	Distributed Systems	Computer Science and Information Technology
8	OE347	New Product Design & Development	Mechanical Engineering
9	OE349	Non-Conventional Energy Sources	Mechanical Engineering
10	OE351	Hydrogen & Fuel Cell Technology	Mechanical Engineering
11	OE353	Factory Automation	Mechatronics Engineering Dept.
12	OE355	Cyber Physical System	Mechatronics Engineering Dept.

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Open Elective I			
Sr. No.	**Course Code**	**Open Elective Subject Name**	**Offered by the department**
13	OE357	Internet of things	Electronics & Telecommunication Engineering
14	OE359	Drone technology	Electronics & Telecommunication Engineering
15	OE361	Object Oriented Modeling and Design	Computer Science and Information Technology
16	OE363	Robotics Engineering & Applications	Robotics & Automation

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Curriculum Structure and Evaluation Scheme

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Department of Electrical Engineering

Rev: EE Course Structure/RIT/05/2023-27

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

Course Code	Course	Teaching Scheme				Evaluation Scheme				
							Theory (%Marks)		Practical (%Marks)	
		L	T	P	Credits	Scheme	Max	Min. for passing	Max	Min. for passing
EE314	Power System Protection	2	-	-	2	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
EE3044	Power Electronics	3	-	-	3	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
EE316	Research Methodology	2	-	-	2	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
EE320	Control System Design	3	-	-	3	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
	Program Elective-II	3	-	-	3	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
	Open Elective-II	3	-	-	3	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
	Multidisciplinary Minor-V	3	-	-	3	ISE	20	40	---	---
						UT1	15		---	---
						UT2	15		---	---
						ESE	50	40	---	---
SH3065	Scholastic Aptitude-II	2*			Audit	ISE	100	50 (P/NP) --	--	--
EE3544	Power Electronics Lab	-	-	2	1	ISE	--	--	50	50
						ESE	--	--	50	50
EE360	Automation and Control Lab	-	-	2	1	ISE	---	--	100	50
EE364	Power System Protection Lab	-	-	2	1	ISE	--	--	50	50
						ESE	--	--	50	50
EE3584	Capstone Project Phase I	-	-	2	1	ISE	--	---	100	50
	TOTAL	**19+2* = 21***	-	**08**	**23**					
	TOTAL CONTACT HOURS	**29***								

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam, P = Pass, NP = Not Pass

Total Contact Hours/week : 29*

Total Credits : 23

Note*: Students should complete 5 days (30 Hours) of Scholastic Aptitude training program organized by the Institute.

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Program Elective – II

Sr. No.	Course Code	Discipline	Course
1	EE3064	**Power and Energy Systems**	Electrical Energy Conservation and Auditing
2	EE318		Battery Management Systems
3	EE3104	**Drives and Control**	Advanced Control Systems
4	EE3124		Application of Microcontrollers in Electrical Engineering

Open Elective II			
Sr. No.	**Course Code**	**Open Elective Subject Name**	**Offered by the department**
1	OE3024	Reliability Engineering	Robotics & Automation
2	OE3084	Materials Management	Civil Engineering
3	OE3182	Industrial Drives	Electrical Engineering
4	OE3284	Supply Chain Management	Mechanical Engineering
5	OE3324	Entrepreneurship Development	Mechanical Engineering
6	OE3401	Cyber Security	Computer Science and Information Technology
7	OE342	Data Mining	CSE(AI&ML)
8	OE344	Supply Chain Analytics	Mechatronics Engineering Dept.
9	OE346	Mobile Robotics	Mechatronics Engineering Dept.
10	OE348	Information Technology Foundation Program	Computer Science and Engineering
11	OE350	Operations Research	Civil Engineering
12	OE352	Image Processing	Electronics & Telecommunication Engineering

Open Elective II			
Sr. No.	**Course Code**	**Open Elective Subject Name**	**Offered by the department**
13	OE354	Fuzzy logic and Neural Network	Electronics & Telecommunication Engineering
14	OE356	Project Management	Mechanical Engineering
15	OE358	Plumbing (Water and Sanitation)	Civil Engineering
16	OE362	Flexible Manufacturing System	Robotics & Automation
17	OE364	AI for Manufacturing	Computer Science and Information Technology
18	OE366	AI for Cybersecurity	Computer Science and Engineering
19	OE368	AI for Agriculture	CSE(AI&ML)
20	OE370	AI for Sustainability	Electronics & Telecommunication Engineering
21	OE3242	Marketing for Engineers	MBA

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (%Marks)			Practical (%Marks)	
							Max.	Min. for passing		Max.	Min. for passing
EE411	Solar and Wind Energy Systems	2	-	-	2	ISE	20	40	40	---	---
						MSE	30			---	---
						ESE	50	40		---	---
EE413	Electrical Vehicle	3	-	-	3	ISE	20	40	40	---	---
						MSE	30			---	---
						ESE	50	40		---	---
EE4034	Electrical Drives	3	-	-	3	ISE	20	40	40	---	---
						MSE	30			---	---
						ESE	50	40		---	---
	Program Elective-III	3	-	-	3	ISE	20	40	40	---	---
						MSE	30			---	---
						ESE	50	40		---	---
	Program Elective-IV	3	-	-	3	ISE	20	40	40	---	---
						MSE	30			---	---
						ESE	50	40		---	---
	Program Elective-IV Lab	-	-	2	1	ISE	--	---	----	100	50
EE473	Solar and Wind Energy Systems Lab	-	-	2	1	ISE	--	---	----	100	50
EE475	Electrical Vehicle and Drives Lab	-	-	2	1	ISE	--	---	----	50	50
						ESE	--	---	----	50	50
EE4594	Capstone Project Phase-II	-	-	6	3	ISE	--	---		50	50
						ESE	--	---		50	50
	TOTAL	**14**	**-**	**12**	**20**						
	TOTAL CONTACT HOURS	**26**									

ISE: In Semester Evaluation, MSE: Mid Semester Examination, ESE = End Semester Exam

Total Contact Hours/week : 26

Total Credits : 20

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Program Elective-III

Sr. No.	Course Code	Discipline	Course
1	EE4054	**Power and Energy Systems**	Power System Dynamics and Control
2	EE4074		HVDC Transmission Systems
3	EE4094	**Drives and Control**	Nonlinear Control Systems
4	EE429		Power System Operation and Control

Program Elective-IV Theory

Sr. No.	Course Code	Discipline	Course
1	EE4134	**Power and Energy Systems**	High Voltage Engineering
2	EE4154		Power Quality and Harmonics
3	EE4114	**Drives and Control**	FACTS Controllers
4	EE4174		Smart Grids

Program Elective-IV Lab

Sr. No.	Course Code	Discipline	Course
1	EE465	**Power and Energy Systems**	High Voltage Engineering Lab
2	EE467		Power Quality and Harmonics Lab
3	EE469	**Drives and Control**	FACTS Controllers Lab
4	EE471		Smart Grids Lab

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Choice based Internship Model
Model I: Industry Internship (II)

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (%Marks) Max.	Theory (%Marks) Min. for passing		Practical (%Marks) Max.	Practical (%Marks) Min. for passing
OE4382	Finance for Engineers (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
OE4362	Engineering Management & Economics (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
IP4024	Industry Internship & Project	-	-	-	12	ISE	---	----		50	50
						ESE	---	---		50	50
	TOTAL	-	-	-	16						

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : --
Total Credits : 16

Note:
1] Weekly Contact hours are not mentioned 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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Model II: Research Internship (RI)

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (%Marks) Max.	Min. for passing		Practical (%Marks) Max.	Min. for passing
OE4382	Finance for Engineers (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
OE4362	Engineering Management & Economics (Online Course)	2	-	-	2	ISE	25	40	40	---	---
						ESE	75	40		---	---
RE4044	Research Internship	-	-	-	12	ISE	---	----		50	50
						ESE	---	---		50	50
	TOTAL	-	-	-	**16**						

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : -
Total Credits : 16

Note:
1] Weekly Contact hours are not mentioned as student is expected to be in outside research organization 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.
3] Students who opt for a research internship need to undergo a minimum of one month of research internship in outside research organizations or laboratories.

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

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Model III: Entrepreneurial Internship (EI)

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
ED4104	Project Management (Online Course)	2	-	-	2	ISE	25	40	40	-	-
						ESE	75	40		-	-
ED4044	Commercial Aspects of the Project (Online Course)	2	-	-	2	ISE	25	40	40	-	-
						ESE	75	40		-	-
ED4064	Entrepreneurship Development Program (EDP)	-	-	-	1	ISE	--	--	--	100	50
ED4084	Entrepreneurial Internship	-	-	-	11	ISE	---	--	--	50	50
						ESE				50	
	Total	-	-	-	**16**						

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Total Contact Hours/week : -
Total Credits : 16

Note:

1] Weekly Contact hours are not mentioned as student is expected to be in outside research organization 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.

3] A one week Entrepreneurship Development Program (EDP) will be conducted after completion of 7th semester and before start of 8th semester.

4] Students who opt for an entrepreneurial internship need to undergo a one-month internship at an outside reputed organization or firm

Multidisciplinary Minor

- Student should choose any one specialization given by the department and complete all the five courses under the specialization to earn 170 Credits.
- Following are the baskets of multidisciplinary minor courses

Multidisciplinary Minor Baskets					
MDM Basket Name	**Sr. No.**	**Course Code**	**Course Name**	**Semester**	**Offered by Department**
Construction Engineering	1	CEMD201	Building Construction and Planning	III	Civil Engineering
	2	CEMD202	Building Estimation and Valuation	IV	
	3	CEMD301	Infrastructure Engineering	V	
	4	CEMD303	Smart Cities and Sustainable Development	V	
	5	CEMD302	Environmental Engineering	VI	
Software Programming	1	CSMD201	Introduction to Data Structures	III	Computer Science & Engineering
	2	CSMD202	Problem solving using JAVA	IV	
	3	CSMD301	Fundamentals of Database Systems	V	
	4	CSMD303	Object-oriented Programming in Python	V	
	5	CSMD302	Artificial Intelligence	VI	
Electrical Power System	1	EEMD201	Electrical Power Generation	III	Electrical Engineering
	2	EEMD202	Power System	IV	
	3	EEMD301	Electrical Machines	V	
	4	EEMD303	Electrical Technology	V	
	5	EEMD302	Smart Grid	VI	
Electronics System Design	1	ECMD201	Electronics Devices and Applications	III	Electronics &Telecommunication Engineering
	2	ECMD202	Electronics Communication Systems	IV	
	3	ECMD301	Advanced Communication Systems	V	
	4	ECMD303	Electronic Product Design	V	
	5	ECMD302	Industrial Electronics	VI	
Software Development	1	CIMD201	Data Structures	III	Computer Science &
	2	CIMD202	Computer Algorithms	IV	

Multidisciplinary Minor Baskets					
MDM Basket Name	**Sr. No.**	**Course Code**	**Course Name**	**Semester**	**Offered by Department**
	3	CIMD301	Introduction to DBMS	V	Information Technology
	4	CIMD303	OOP using Java	V	
	5	CIMD302	Software Engineering	VI	
Product Design and Development	1	MEMD203	Design Thinking	III	Mechanical Engineering
	2	MEMD204	Behavioral Engineering and Design	IV	
	3	MEMD305	Product Design Tools and Techniques	V	
	4	MEMD307	Design and Prototyping	V	
	5	MEMD304	Marketing and Business Fundamentals for New Products	VI	
Mechatronics Engineering	1	MCMD201	Fundamentals of Mechatronics	III	Mechatronics Engineering
	2	MCMD202	Industrial Fluid Power	IV	
	3	MCMD301	Sensor and Instrumentation	V	
	4	MCMD303	Industrial Automation	V	
	5	MCMD302	Industrial Robotics	VI	
Artificial Intelligence	1	AIMD201	Object Oriented Programming	III	Computer Science & Engineering (AI-ML)
	2	AIMD202	Data Structures and Algorithms	IV	
	3	AIMD301	Machine Learning	V	
	4	AIMD303	Business Intelligence	V	
	5	AIMD302	Principles of AI	VI	
Robotics & Automation	1	RAMD201	Fundamentals of Robotics & Automation	III	Robotics & Automation
	2	RAMD202	Sensors and Actuators	IV	
	3	RAMD301	Kinematics & Dynamics for Robots	V	
	4	RAMD303	Robot Programming	V	
	5	RAMD302	Industrial Automation & Control	VI	

Rajarambapu Institute of Technology Electrical Engg Department Rajaramnagar

K.E.S. Rajarambapu Institute of Technology Rajaramnagar Autonomous 415414

B.Tech. in Electrical Engineering with Double Minor (Multidisciplinary and Specialization Minor)

B.Tech. in Electrical Engineering with Double Minor degree

1. It is required to complete SIX courses (each of 3 credits) from ONLINE platform to earn total of 18 credits under Double Minor (DM) certification.
2. Student must complete and earn the credits for all the six courses starting from Second Year First semester (3rd semester) to Final Year Second Semester (8th semester).
3. Basket of the DM courses and respective semester is mentioned in the following table.

Sr. No.	Semester	Course	Code
1	III	DM – I	EEDM3XXX
2	IV	DM – II	EEDM4XXX
3	V	DM – III	EEDM5XXX
4	VI	DM – IV	EEDM6XXX
5	VII	DM – V	EEDM7XXX
6	VIII	DM – VI	EEDM8XXX

4. To select course platform, first preference must be given to NPTEL.
5. Other than NPTEL, courses from COURSERA and UDEMY platforms are allowed to register only in following cases,
    a. If timeline of NPTEL course is not in line with timeline of academic calendar.
    b. The suitable succeeding course in line with previous course is not available on NPTEL.
    c. If any other unavoidable circumstances occurs.
6. Platform and course selection must be as per recommendation of BOS of the department.
7. Student will get the credits of respective DM course in following conditions,
    a. In case of course selected from NPTEL platform, student have to complete the timely assignments, PASS the exam and secure the certificate.
    b. In case of course selected from COURSERA or UDEMY, student have to secure the certificate and appear for VIVA(oral) exam.
8. While selecting online course, following points must be taken care of,
    a. Selected course must be of basic or fundamental level.
    b. Contents of the course should not be covered in any of the course offered in regular curriculum or not listed in any elective (open or program elective) or in Multidisciplinary Minor (MDM)
    c. Duration of each online course must be of EIGHT weeks for NPTEL and 30+ hours for UDEMY, COURSERA courses.

B.Tech. in Electrical Engineering with Honor and Multidisciplinary Minor

B.Tech. in Electrical Engineering with Honor and Multidisciplinary Minor degree

1. It is required to complete SIX courses (each of 3 credits) from ONLINE platform to earn total of 18 credits under Honor certification.
2. Student must complete and earn the credits for all the six courses starting from Second Year First semester (3rd semester) to Final Year Second Semester (8th semester).
3. Basket of the Honor courses and respective semester is mentioned in the following table.

Sr. No.	Semester	Course	Code
1	III	Honor - I	EEH3XXX
2	IV	Honor - II	EEH4XXX
3	V	Honor - III	EEH5XXX
4	VI	Honor - IV	EEH6XXX
5	VII	Honor - V	EEH7XXX
6	VIII	Honor - VI	EEH8XXX

4. To select course platform, first preference must be given to NPTEL.
5. Other than NPTEL, courses from COURSERA and UDEMY platforms are allowed to register only in following cases,
   a. If timeline of NPTEL course is not in line with timeline of academic calendar.
   b. The suitable succeeding course in line with previous course is not available on NPTEL.
   c. If any other unavoidable circumstances occurs.
6. Platform and course selection must be as per recommendation of BOS.
7. Student will get the credits of respective Honor course in following conditions,
   a. In case of course selected from NPTEL platform, student have to complete the timely assignments, PASS the exam and secure the certificate.
   b. In case of course selected from COURSERA or UDEMY, student have to secure the certificate and appear for VIVA (oral) exam.
8. While selecting online course, following points must be taken care of,
   a. Selected course must be of advanced level and not basic or fundamental level.
   b. Contents of the course should not be covered in any of the course offered in regular curriculum or not listed in any elective (open or program elective)
   c. Duration of each online course must be of EIGHT weeks for NPTEL and 30+ hours for COURSERA, UDEMY courses.

B.Tech. in Electrical Engineering-Honors with Research and Multidisciplinary Minor

Honors with Research and Multidisciplinary Minor

The student will work on Research Project or Dissertation for 18 Credits in the Fourth Year in respective discipline. The distribution of 18 Credits for Research project in Sem-VII and Sem-VIII is given below. To get B.Tech. in Electrical Engineering-Honors with Research and Multidisciplinary Minor degree Student need to earn total 188 Credits which consist 170 credits of regular Multidisciplinary Minor courses and 18 credits of Research courses.

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks %) Max.	Min. for passing		Practical (Marks %) Max.	Min. for passing
REH401	Intellectual Property Rights	-	-	-	2	ISE	50	40	40	---	---
						ESE	50	40		---	---
REH403	Research project (Synopsis) phase - I	-	-	-	2	ISE	--	--	--	50	50
						ESE	--	--		50	50
REH405	Research Specific core course - I (Online NPTEL course)	-	-	-	3	ISE	50	40	40	--	--
						ESE	50	40		--	--
	TOTAL	-	-	-	7						

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam

Note: For Evaluation of Online NPTEL course ISE Marks will be marks obtained by students in the assignments given by NPTEL, students who will secure NPTEL certification will be only eligible for ESE of the same course which will be conducted at institute

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

Course Code	Course	Teaching Scheme				Evaluation Scheme					
		L	T	P	Credits	Scheme	Theory (Marks %) Max.	Min. for passing		Practical (Marks %) Max.	Min. for passing
REH402	Research project phase - II	-	-	-	11	ISE	--	--	--	50	50
						ESE	--	--		50	
	TOTAL	-	-	-	11						

ISE: In Semester Evaluation, UT-I: Unit Test-I, UT-II: Unit Test-II, ESE: End Semester Exam