

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 Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24
Semester: III

Class: S. Y. B. Tech

Class.	5. 1. D. 10011	Te	eachin	g Sche	me	Evaluation Scheme					
	6				S	9	Theor	y Ma	rks	Practi	ical Marks
Course Code	Course		L T P		Credits	Scheme	Max	Min for passing (%)		Max	Min for passing (%)
						ISE	20				
0110110	Engineering		1		4	UT1	15	40	40		
SH2113	Mathematics –III	3	1	-	4	UT2	15		40		
						ESE	50	40			
						ISE	20				
EG0010	DI				2	UTI	15	40	40		
EC2013	Electronic Devices	3			3	UT2	15		40		
						ESE	50	40	1		
						ISE	20				
	2000		İ		2	UT1	15	40	40		
EC2033	Digital System Design	3			3	UT2	15	1	40		
						ESE	50	40			
	Analog Communication	3				ISE	20	40			
E00050					2	UTI	15		40		
EC2053					3	UT2	15		40		
						ESE	50	40			
						ISE	20	40	40		
EC2072	Natural Theory	12			3	UTI	15				
EC2073	Network Theory	3			3	UT2	15				
						ESE	50				
EG0000	Electronic Devices Lab			2	1	ISE				50	50
EC2093				2	1	ESE				50	50
EC2112	Digital System Degion Lab			2	1	ISE				50	50
EC2113	Digital System Design Lab			2	1	ESE				50	50
EC0122	Analog Communication Lab			2	1	ISE				50	50
EC2133	Analog Communication Lab			2	1	ESE				50	50
EC2153	Technical Aptitude-I	-	-	2	1	ISE				50	50
EC2133	**			4	1	ESE				50	50
	Professional Skills Development and Foreign Languages – I		-	2	1	ISE	-	-	-	100	50
	TOTAL	15	01	10	21						

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, ESE = End Semester Examination

Total Contact Hours/week

: 26

Total Credits

: 21

Technical Aptitude Courses: Engineering Mathematics –III, Electronic Devices, Digital System Design, Analog Communication, Network Theory.







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Department of Electronics and Telecommunication Engineering Rev: ETC/RIT/02/2020-24

Open Elective II

Sr. No.		Subject Name	Course Code
1.	Professional Skills	Personal Effectiveness & Body	SH2593
	Development and	Language	
2.	Foreign Languages - I	Interpersonal Skills ('Jeevanvidya'	SH2613
		for Work life Balance)	
3.	1	Professional	SH2633
		Leadership Skills	
4.		Innovation Tools and Methods for	SH2693
		Entrepreneurs	
5.	-	German Language – Basic Level	SH2733
6.	-	Japanese Language –Level III	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 - Level III'. Such students may give their choices for 'German Language - Advanced Level' and 'Japanese Language -Level IV' (batch sizes 40 each) in the S.Y. B. Tech Sem-IV

3. The students who will select and will successfully complete 'German Language - Basic Level' and 'Japanese Language - Level III' 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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Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24 Semester: IV

Class: S. Y. B. Tech

				ching ieme				Evalu	ation S	cheme	A
Course	Course				S	e	The	ory Ma	arks	Pract	ical Marks
Code			Т	P	Credits	Scheme	Max	pas	for sing 6)	Max	Min for passing (%)
						ISE	20				
	m i Nolonia	2		_	2	UT1	15	40	40		
CE2263	Engineering Mechanics	2	-	-	2	UT2	15		0		
						ESE	50	40			
						ISE	20				
EC212	Linear Integrated Circuit and	3			3	UT1	15	40	40		
	Applications)			3	UT2	15		1 40		
						ESE	50	40			
						ISE	20				
EC2043		3			3	UT1	15	40	40		
	Microcontrollers				٥	UT2	15		40		
						ESE	50	40			
	Digital Communication	3				ISE	20	111111111111111111111111111111111111111	40		
EC2063					3	UTI	15	40			
Lozoos						UT2	15		1 40		
						ESE	50	40			
						ISE	20				
EC2083	Signals and System	3			3	UTI	15	40	40		
202003	J.S. S.					UT2	15		40		
						ESE	50	40			
		1*			1	ISE	50	40	40		
SH2173	Environmental Science	1 "	-	-	1	ESE	50	40	40		
CE2283	Engineering Mechanics Lab	-	-	2	1	ISE		-		100	50
	Linear Integrated Circuit and					ISE		-		50	50
EC220	Applications Lab			2	1	ESE		-		50	50
		+	-	-		ISE		_		50	50
EC2123	Microcontrollers Lab			2	1	ESE				50	50
			+	+		ISE		-		50	50
EC2143	Digital Communication Lab			2	1	ESE		-		50	50
SH2603	Environmental Science Project		-	2	1	ISE		-		100	50
			+			ISE		_		50	50
EC2163	Technical Aptitude-II	-	-	2	1	ESE		-		50	50
040	Professional Skills Development and Foreign Languages - II	-	-	2	1	ISE				100	50
	TOTAL	15	_	14	22						

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, ESE = End Semester Examination

Total Contact Hours/week

: 29

Total Credits

: 22

Note*: One extra lecture to be allotted to Environment Science in time table.







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Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24

Technical Aptitude Courses: Linear Integrated Circuit and Applications, Microcontrollers, Digital Communication, Signals and System.

Open Elective III

Sr. No.		Subject Name	Course Code
1.	Professional Skills	Personal Effectiveness & Body	SH2593
	Development and	Language	
2.	Foreign Languages - II	Interpersonal Skills ('Jeevanvidya' for	SH2613
		Work life Balance)	
3.		Professional Leadership Skills	SH2633
4.	-	Innovation Tools and Methods for	SH2693
		Entrepreneurs	
5.	1	German Language - Advanced Level	SH2643
6.	1	Japanese Language – Level IV	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 – Level III'. Such students may give their choices for 'German Language – Advanced Level' and 'Japanese Language – Level IV' (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 – Level III' 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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With effective from 2020-21 [2020-24, 2021-25 Batch]

Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24 Semester: V

Class:

T. Y. B. Tech

Evaluation Scheme Teaching Scheme Theory Marks Practical Marks Scheme Credits Course Course Min. for Min. for L T P Code Max Max passing (%) Passing (%) ISE 20 UT1 15 40 ---40 3 3 EC3013 Digital Signal Processing UT2 15 ------40 50 **ESE** 20 **ISE** ---15 40 UT1 40 3 EC3033 Product Design 3 UT2 15 40 ESE 50 ISE 20 UT1 15 40 40 3 3 EC3053 CMOS VLSI Design UT2 15 50 40 **ESE** 20 ISE 40 15 UTI Electromagnetic Waves 40 3 3 EC3073 UT2 15 Antenna Theory 40 **ESE** 50 20 ISE 40 UT1 15 40 3 3 Program Elective-I UT2 15 ---**ESE** 50 40 ---50 50 Digital Signal Processing ISE ---2 1 EC3213 using MATLAB 50 50 **ESE** ---50 50 ISE 2 CMOS VLSI Design Lab EC3233 50 50 **ESE** 100 50 ISE 2 Antenna Lab EC3253 50 50 ESE 100 50 ISE Object Oriented Programming 50 2 50 **ESE** EC3273 using C++ Lab 100 50 ESE Technical Aptitude-III 2 1 EC3293 ISE 20 ---UT1 15 40 40 2* 2 Scholastic Aptitude I SH3033 UT2 15 ESE 50 40 Summer Internship** 100 50 ISE 2 EC3313 (4 Weeks) ISE 100 50 Indian Constitution Audit 2 SH3011 19 10 24

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, ESE = End Semester Examination

Total Contact Hours/week

TOTAL

Total Credits

: 24

Note*: One extra lecture to be allotted to Aptitude Training-I in time table.

Technical Aptitude Course: Digital Signal Processing, CMOS VLSI Design, Electromagnetic Waves & Antenna Theory. 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.





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K.E. Society's
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Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24

Program Elective-I

Sr.No	Course Code	Domain	Course			
1.	EC311	Commission	Information Theory and coding			
2.	EC313	Communication	Wireless Communication			
3.	EC315	VLSI and Signal	VLSI testing & Verification			
4.	EC317	Processing	Soft Computing			
5.	EC319	Embedded	Automotive Electronics			
6.	EC321	Systems and Automation	Advanced Microcontrollers Architecture			







EC3203

EC3223

EC3243

EC3263

SH304

SH3063

Class:

T. Y. B. Tech

Power Electronics Lab

Python Programming

Scholastic Aptitude II

Capstone Project phase-I

Product

Electronics

design Lab

Psychology for

Engineers

K.E. Society's

Rajarambapu Institute of Technology, Rajaramnagar

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Teaching

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

Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24 Semester: VI

Evaluation Scheme Scheme Course Theory Marks Course Credits **Practical Marks** Scheme Code T L P Min. for Min. for Max Max passing (%) passing (%) **ISE** 20 EC3023 UT1 15 40 3 3 40 Power Electronics UT2 15 ---**ESE** 50 40 ---**ISE** 20 ---EC3043 3 3 UT1 15 40 Machine Learning 40 UT2 15 ESE 50 40 **ISE** 20 UT1 15 40 Program Elective-II ---3 3 40 UT2 15 ---**ESE** 50 40 **ISE** 20 ---UT1 15 40 Open Elective-IV 3 3 40 UT2 15 **ESE** 50 40 20 **ISE** ---UT1 15 40 ---SH3021 Biology for Engineers 3 3 40 UT2 15 ---**ESE** 50 40 EC3183 Technical Aptitude-IV 2 -**ESE** 100

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, ESE = End Semester Examination

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

TOTAL

Note*: One extra lecture to be allotted to Scholastic Aptitude Training-II and Psychology for Engineers Technical Aptitude Courses: Power Electronics, Machine Learning, Biology for Engineers

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100



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

Department of Electronics and Telecommunication Engineering

Rev: ETC/RIT/02/2020-24

Program Elective - II

Sr.No	:No Course Code Domain		Course			
1.	EC312	Communication	Microwave Theory and Techniques			
2.	EC314	Communication	Wireless Sensor Network			
3.	EC316	VI SI and Signal Dunganian	RTL Simulation and Synthesis			
4.	EC318	VLSI and Signal Processing	Digital Image Processing			
5.	EC320	Embedded Systems and Automatics	Robotics			
6.	EC322	Embedded Systems and Automation	Numerical Processors			

Open Elective-IV

	Open Elective-IV					
Sr. No.	Branch	Course Code	Open Elective-IV Courses			
1	Automobile	OE3023	Reliability Engineering			
2	Automobile	OE3043	Renewable Energy Sources			
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			
13	Mechanical	OE3263	Aircraft Systems			
14	Mechanical	OE3283	Supply Chain Management			
15	Mechanical	OE3301	New Product Design and Development			
16	Mechanical	OE3323	Entrepreneurship Development			
17	Mechanical	OE3341	Research Methodology			
18	Civil	OE338	Disaster Management			
19	CS&IT	OE340	Cyber Security			



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Class: Final Year B. Tech

Semester: VII

			Tea Sch	chin eme		Evaluation Scheme						
Course	Course				ts	ne	Theory Marks			Practical Marks		
Code		L	Т	P	Credi	Credits	Max.	Min. fo passing		Max.	Min. for passing (%)	
						ISE	20					
EC4012	Commutan Nativania	,			,	UTI	15	40	10			
EC4013	Computer Network	3	-	-	3	UT2	15		40			
						ESE	50	40				
						ISE	20					
C(4071	Artificial	1 2			,	UTI	15	40	10			
EC4071	Intelligence	3	=	-	3	UT2	15		40			
						ESE	50	40	1			
						ISE	20					
	Program Elective-		3		UT1	15	40	10				
	III	3		-	3	UT2	15		40			
						ESE	50	40	1			
						ISE	20					
	Program Elective-				_	UT1	15	40 40				
	IV	3	-	-	3	UT2	15					
						ESE	50	40				
						ISE	20					
	Program Elective-V	2				UT1	15	40	40			
		3	-	-	3	UT2	15		40			
						ESE	50	40				
EC4533	Computer Network	_	_	2	1	ISE			-	50	50	
	lab		_		1	ESE			-	50	50	
	Program Elective-	_	-	2	1	ISE				50	50	
	IV Lab					ESE			-	50	50	
EC4553	Capstone Project Phase-II	-	-	4	4	ISE ESE				100	50	
	TOTAL	1 5	0	8	21		B					

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, ESE = End Semester Examination

Total Contact Hours/week : 23 Total Credits : 21







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Program Elective-III

Sr.No	Course Code	Domain	Course
1.	EC4053	Communication	Satellite Communication
2.	EC419	Communication	Multimedia communication
3.	EC421	VLSI and Signal	Computer Vision
4.	EC4211	Processing	Mixed Mode VLSI Design
5.	EC4133	Embedded Systems and	Embedded Linux
6.	EC423	Automation	Advanced Power Electronics

Program Elective-IV

Sr.No	Course Code	Domain	Course				
1.	EC417	Communication	Radar and Optical Fiber Communication				
2.	EC4231	Communication	Internet of Things				
3.	EC4213	VLSI and Signal	System Verilog				
4.	EC4233	Processing	Biomedical Electronics				
5.	EC425	Embedded Systems and	Embedded System Design				
6.	EC4273	Automation	Programmable Logic Controller & SCADA				

Program Elective-V

Sr.No	Course Code	Domain	Course				
1.	EC4291	Communication	Network Security				
2.	EC431	Communication	Pattern Recognition				
3.	EC4332	VI CI and Cianal	Low Power VLSI				
4.	EC435	VLSI and Signal Processing	Digital Signal Processing For Wireless Communication				
5.	EC4372	Embedded Systems	Computer Architecture				
6.	EC4392	and Automation	Electric Drives and Control				

Program Elective-IV Lab

Sr.No	Course Code	Domain	Course
1.	EC441	Communication	Radar and Optical Fiber Communication Lab
2.	EC443	Communication	Internet of Things Lab
3.	EC4453	VLSI and Signal	System Verilog Lab
4.	EC447	Processing	Biomedical Electronics Lab
5.	EC449	Embedded Systems and	Embedded System Design Lab
6.	EC4513	Automation	Programmable Logic Controller & SCADA Lab







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Department of Electronics and Telecommunication Engineering

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Track I: Industry Internship & Project (IIP)

Class. F	Final Year B. Tech								Se	mester	: VIII
Class: 1	Course		Teaching Scheme			Evaluation Scheme					
Course Code			Т	Р	Credit	Schem	Theory Marks			Practical Marks	
		L					Max.	Min. fo		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			
	Internship & Project		-	-	8	ISE				50	50
IP4023		-				ESE				50	50
	TOTAL	4	-	-	12						

ISE = In Semester Evaluation, ESE = End Semester Exam

Total Contact Hours/week

: 04

Total Credits

: 12

- 1] Weekly Contact hours are not mentioned for IP4023 course 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)

Semester: VIII Final Year B. Tech Class: Teaching **Evaluation Scheme** Scheme Theory Marks Practical Marks Course Schem Course Credit Code P L T Min. for Max. Min. for Max. passing (%) passing (%) 25 40 Finance for Engineers ISE 40 2 2 OE4381 (Online Course) ESE 75 40 Engineering ISE 25 40 Management & 40 2 2 OE4361 **Economics** ESE 40 75 (Online Course) ISE 50 50 ---____ 8 8 Research Project RE4043 50 50 ESE ___ 8 12 TOTAL 4

ISE = In Semester Evaluation, ESE = End Semester Exam

Total Contact Hours/week

: 12

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)

Semester: VIII Final Year B. Tech Class: Teaching **Evaluation Scheme** Scheme Credits Practical Marks Theory Marks Course Scheme Course Code T P L Min. for Min. for Max Max passing (%) passing (%) **ISE** 20 UT-1 15 40 40 2* 2 Project Management ED4103 UT-2 15 **ESE** 50 40 ISE 20 40 UT-1 15 Commercial Aspects 40 2* 2 ED4043 UT-2 of the Project 15 **ESE** 50 40 Entrepreneurship 100 50 Development **ISE** 1 ED4063 Program (EDP) 50 50 ISE Entrepreneurship 7 7 ED4083 Development Project **ESE** 50 4 Total

ISE = In Semester Evaluation, UT1 = Unit Test-1, UT2 = Unit Test-2, 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.



