

CENTRE OF RAPID ALTERNATIVE ENERGY AND MOBILITY

With

**School of Information and Communication Technology
(Department of Electronics and Communication Engineering)**

COURSE STRUCTURE

for

2 – Years M Tech in ECE (Regular & e-Learning Mode, Semester 1st to 4th)

&

Dual degree B Tech (ECE/CSE/EE) +M Tech in ECE (Semester 7th to 10th)

(Specialization in Railway Signalling Telecommunication and RAMS)



GAUTAM BUDDHA UNIVERSITY, GREATER NOIDA

2019-2020

2- Year M.Tech. in ECE (Specialization in RST & RAMS) (2019-2020)

SEMESTER- I

Sr.No	Course Code	Courses	L-T-P		Credits
1	ER101	Basics of Signalling Engineering	3-1-0	C1	4
2	ER103	Basics of Railway Engineering	3-0-0	C2	3
3	ER105	Basics of Telecom Engineering	3-0-0	C3	3
4	EC401/EE571/CS401	Optical Communication/ Power System Analysis and Control/ Compiler Design	3-0-0	SEC1	3
5		Elective – 1	3-0-0	OE1	3
6	EC481/EE591/CS481	Optical Communication Lab/ Power System Lab/ Compiler Design Lab	0-0-3	SEC2	2
7	ER001	System Design Lab	0-0-2	C4	1
8	EC493/EE493/CS493	Minor Project	0-0-8	DP1	4
9	GP	General Proficiency		Non Credit	
		Total Credits			23
		Total Contact Hours	14-2-13		29

SEMESTER- II

Sr. No.	Course Code	Courses	L-T-P		Credits
1		Generic Elective	3-1-0	GE1	4
2	ER102	Introduction to RAMS	3-0-0	C5	3
3	ER104	Intelligent Transport Systems	3-0-0	C6	3
4	ER106	Design Techniques for Safety	3-0-0	C7	3
5		Open Elective-1	3-0-0	DSE1	3
6	ER002	Railway Signalling Lab	0-0-3	C9	2
7	ER004	Major Project	0-0-10	DP2	5
8	GP	General Proficiency	---	Non Credit	
		Total	15-1-13		23
		Total Contact Hours			29

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SEMESTER – III

Sr. No.	Course Code	Courses	L-T-P	Credits	
1	ER105	RAMS Advance	3-0-0	C8	3
2	ER107	Accident Investigation & Safety Standards	3-0-0	C9	3
3		Elective-2	3-0-0	DSE 2	3
		Elective-3	3-0-0	DSE 3	3
4		Open Elective-2	3-0-0	DSE 4	3
5	ER003	RAMS Simulation lab	0-0-3	C10	2
6	ER005	Dissertation Part-I	0-0-14	DP3	4
7	GP	General Proficiency	---	Non Credit	
Total					21
Total Contact Hours			12-0-17	29	

SEMESTER-IV

Sr. No	Course Code	Courses	L-T-P	Credits	
1	ER004	Dissertation Part-II	---	DP4	23
2	GP	General Proficiency		Non Credit	
Total					23

Grand Total Credits = 90

Generic Elective (GE1)

1. ER801 Information Technology for Railway
2. Any other offered by other School/Departments

Elective: 1

Sr.No	Course Code	Courses
1	EC441	Design with Microcontrollers
2	EC443	Telecommunication Switching and Networks
3	EC661	FPGA Architecture and Applications
4	EC405	Wireless Mobile Communication
5	EC537	Embedded Systems Concepts and Design
6	EE445	Utilization of Electric Energy and Traction
7	EE501	Power Electronics Devices and Magnetics
8	CS451	Wireless Technologies
9	CS403	Object-Oriented Analysis
10		Any other offered by respective department (ECE/EE/CSE)

2- Year M.Tech. in ECE (Specialization in RST & RAMS) (2019-2020)**Open Elective: 1 & 2**

Sr. No.	Course Code	Courses
1	ER901	Advanced Railway Engineering
2	ER902	Electrical Signalling, Track circuits and Axle Counters
3	ME503	Mechatronics System Design
4	IT413	Fuzzy & Soft Computing Techniques
5	EE001	Utilization of Electrical Energy and Traction
6	IT404	Internet of Things
7	CE001	Construction Practices
8	MB001	Digital Marketing
9	EC570	System Specifications and Modeling
10		Any other offered by ECE Department

Electives: 2&3

Sr. No.	Course Code	Courses
1	EC562	Optical Networks
2	EC643	Smart Antenna Systems
3	EC645	Broadband Wireless Networks
4	EC655	Sensor and Actuator
5	EC663	Hardware Software Co design
6	ER903	Metro Rail Signalling
7	ER904	Interlocking
8	ER905	Transport System Management
9	ER906	Utilization of Electric Power & SCADA Systems
10		Any other offered by ECE Department