Gokaraju Rangaraju Institute of Engineering and Technology

(Autonomous)

Bachupally, Kukatpally, Hyderabad – 500 090, India. (040) 6586 4440

ELECTRONICS AND COMMUNICATION ENGINEERING

I YEAR I SEMESTER

S. No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A1001	Linear Algebra and Differential Calculus	3	1	0	4	4	30	70	100
2	GR18A1005	Engineering Chemistry	3	1	0	4	4	30	70	100
3	GR18A1008	Basic Electrical Engineering	3	0	0	3	3	30	70	100
4	GR18A1006	English	2	0	0	2	2	30	70	100
5	GR18A1013	Engineering Chemistry Lab	0	0	3	3	1.5	30	70	100
6	GR18A1016	Basic Electrical Engineering Lab	0	0	2	2	1	30	70	100
7	GR18A1014	English Language and Communication Skills Lab	0	0	2	2	1	30	70	100
8	GR18A1017	Engineering Workshop	1	0	3	4	2.5	30	70	100
		Induction Programme								
		Total	**12**	**2**	**10**	**24**	**19**	**240**	**560**	**800**

I YEAR II SEMESTER

S. No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A1002	Differential Equations and Vector Calculus	3	1	0	4	4	30	70	100
2	GR18A1003	Applied Physics	3	1	0	4	4	30	70	100
3	GR18A1007	Programming for Problem Solving	3	1	0	4	4	30	70	100
4	GR18A1010	Engineering Graphics	1	0	4	5	3	30	70	100
5	GR18A1011	Applied Physics Lab	0	0	3	3	1.5	30	70	100
6	GR18A1015	Programming for Problem Solving Lab	0	0	3	3	1.5	30	70	100
		Total	**10**	**3**	**10**	**23**	**18**	**180**	**420**	**600**

II YEAR I SEMESTER

S. No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A2051	Electronic Devices and Circuits	3	0	0	3	3	30	70	100
2	GR18A2030	Digital Electronics	3	0	0	3	3	30	70	100
3	GR18A2052	Signals and Systems	3	0	0	3	3	30	70	100
4	GR18A2053	Probability Theory and Stochastic Processes	3	0	0	3	3	30	70	100
5	GR18A2054	Network Analysis and Transmission Lines	3	0	0	3	3	30	70	100
6	GR18A2004	Economics and Accounting for Engineers	3	0	0	3	3	30	70	100
7	GR18A2055	Electronic Devices and Circuits Lab	0	0	2	2	1	30	70	100
8	GR18A2033	Digital Electronics Lab	0	0	2	2	1	30	70	100
9	GR18A2056	Signals and Systems Lab	0	0	2	2	1	30	70	100
		Total	**18**	**0**	**6**	**27**	**21**	**270**	**630**	**900**
10	GR18A2001	Environmental Science	2	0	0	2	2	30	70	100
11	GR18A2083	Design Thinking	2	0	0	2	1	30	70	100

II YEAR II SEMESTER

S.No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A2006	Computational Mathematics for Engineers	3	0	0	3	3	30	70	100
2	GR18A2057	Electromagnetic Fields and Waves	3	0	0	3	3	30	70	100
3	GR18A2058	Analog and Digital Communications	3	0	0	3	3	30	70	100
4	GR18A2059	Analog and Pulse Circuits	3	0	0	3	3	30	70	100
5	GR18A2060	Microprocessors and Microcontrollers	3	0	0	3	3	30	70	100
6	GR18A2061	Principles of Operating Systems	3	0	0	3	3	30	70	100
7	GR18A2062	Analog and Digital Communications Lab	0	0	2	2	1	30	70	100
8	GR18A2063	Analog and pulse circuits Lab	0	0	2	2	1	30	70	100
9	GR18A2064	Microprocessors and Microcontrollers Lab	0	0	2	2	1	30	70	100
		Total	**18**	**0**	**6**	**24**	**21**	**270**	**630**	**900**
10	GR18A2002	Value Ethics and Gender Culture	2	0	0	2	2	30	70	100

III YEAR I SEMESTER

S.No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A3130	Computer Architecture &Organization	3	0	0	3	3	30	70	100
2	GR18A3026	Linear Control Systems	3	0	0	3	3	30	70	100
3	GR18A3034	VLSI Design	3	0	0	3	3	30	70	100
4	GR18A3035	Antennas and Wave Propagation	3	0	0	3	3	30	70	100
5	GR18A3036	Integrated Circuits and Applications	3	0	0	3	3	30	70	100
6		Elective-I	3	0	0	3	3	30	70	100
7	GR18A3040	Integrated Circuits Lab	0	0	2	2	1	30	70	100
8	GR18A3041	OOPS through Java Lab	0	0	2	2	1	30	70	100
9	GR18A3042	VLSI Design Lab	0	0	2	2	1	30	70	100
		Total	**18**	**0**	**6**	**27**	**21**	**270**	**630**	**900**
10	GR18A2003	Constitution of India	2	0	0	2	2	30	70	100

ELECTIVE – 1		
S. No.	Course Code	COURSE
1.	GR18A3037	OOPS through Java
2.	GR18A3095	Digital System Design
3.	GR18A3038	Data Analytics
4.	GR18A3039	Fiber Optic Communications

III YEAR II SEMESTER

S.No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A3090	Microwave Engineering	3	0	0	3	3	30	70	100
2	GR18A3091	Digital Signal Processing	3	0	0	3	3	30	70	100
3	GR18A3044	Computer Networks	3	0	0	3	3	30	70	100
4		Elective-2	3	0	0	3	3	30	70	100
5		Open Elective-1	3	0	0	3	3	30	70	100
6	GR18A3096	Microwave Engineering Lab	0	0	2	2	1	30	70	100
7	GR18A3097	Digital Signal Processing Lab	0	0	2	2	1	30	70	100
8	GR18A3098	Computer Networks Lab	0	0	2	2	1	30	70	100
9	GR18A3116	Mini Project with Seminar	0	0	6	6	3	30	70	100
	Total		15	0	12	27	21	270	630	900

ELECTIVE – 2		
S. No.	Course Code	COURSE
1.	GR18A3092	Satellite Communications
2.	GR18A3093	Communication Technologies
3.	GR18A3094	Information Theory and Coding
4.	GR18A2068	Database Management Systems

IV YEAR I SEMESTER

S.No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A3115	Fundamentals of Management and Entrepreneurship	3	0	0	3	3	30	70	100
2	GR18A4034	Cellular and Mobile Communications	3	0	0	3	3	30	70	100
3		Elective-3	3	0	0	3	3	30	70	100
4		Elective-4	3	0	0	3	3	30	70	100
5		Open Elective-2	3	0	0	3	3	30	70	100
6	GR18A4061	Project Work (Phase I)	0	0	12	12	6	30	70	100
Total			**15**	**0**	**12**	**27**	**21**	**180**	**420**	**600**

ELECTIVE – 3		
S. No.	Course Code	COURSE
1.	GR18A4035	Radar Systems
2.	GR18A4036	Bio-Medical Electronics
3.	GR18A4104	Python Programming
4.	GR18A2066	Data Structures

ELECTIVE – 4		
S. No.	Course Code	COURSE
5.	GR18A4039	Digital Signal Processors and Architectures
6.	GR18A4040	Network Security and Cryptography
7.	GR18A4041	Internet of Things
8.	GR18A4042	Electronic Measurements and Instrumentation

IV YEAR II SEMESTER

S.No.	Course Code	COURSE	Hours			Total Hours	Total Credits	Int	Ext	Marks
			L	T	P					
1	GR18A4087	Digital Image Processing	3	0	0	3	3	30	70	100
2		Elective-5	3	0	0	3	3	30	70	100
3		Elective-6	3	0	0	3	3	30	70	100
4		Open Elective-3	3	0	0	3	3	30	70	100
5	GR18A4108	Project Work (Phase II)	0	0	12	12	6	30	70	100
Total			12	0	12	24	18	150	350	500

ELECTIVE – 5		
S. No.	Course Code	COURSE
1.	GR18A4088	Navigational Aids
2.	GR18A4089	Wireless Communications and Networks
3.	GR18A4090	Introduction to Machine Learning
4.	GR18A4091	Principles of Optimization Techniques

ELECTIVE – 6		
S. No.	Course Code	COURSE
1.	GR18A4092	Embedded System Design
2.	GR18A4093	Nano Materials and Technology
3.	GR18A4094	Wireless Sensor Networks
4.	GR18A4095	Television Engineering

PROFESSIONAL ELECTIVES – 4 THREADS

Elective	Thread I	Thread II	Thread III	Thread IV
	Systems & Programming	Networks & Technologies	Information & Intelligence	Communications & Electronics
1.	Oops through Java	Digital System Design	Data Analytics	Fibre Optic Communications
2.	Satellite Communications	Communications Technologies	Information Theory and Coding	Database Management Systems
3.	Radar Systems	Bio-Medical Electronics	Python Programming	Data Structures
4.	Digital Signal Processors and Architectures	Network Security and Cryptography	Internet of Things	Electronic Measurements and Instrumentation
5.	Navigational Aids	Wireless Communications and Networks	Introduction to Machine Learning	Principles of Optimization Techniques
6.	Embedded System Design	Nano Materials and Technology	Wireless Sensor Networks	Television Engineering

OPEN ELECTIVES – THREADS

S. No.	THREAD 1	THREAD 2
1	Soft Skills and Interpersonal Skills (GR18A3117)	CSE: 1. Principles of E-commerce (GR18A3129) 2. Database Management Systems (GR18A2068) 3. Java Programming (GR18A2075)
2	Human Resource Development and Organizational Behavior (GR18A3118)	IT: 1. Multimedia and Application Development (GR18A3123) 2. Web Programming (GR18A3057) 3. Operating Systems (GR18A2074)
3	Cyber Law and Ethics (GR18A3119)	EEE: 1.Embedded Systems (GR18A4102) 2. Control Systems (GR18A2032) 3. Artificial Intelligence Techniques (GR18A3016)
4	History of Science (GR18A3120)	ECE:1.Artificial Neural Networks (GR18A3124) 2.Software Defined Radio and Cognitive Radio (GR18A3125) 3.Cloud Computing (GR18A3102)
5	Introduction to Art and Aesthetics (GR18A3121)	ME: 1.Operations Research (GR18A3126) 2. Automobile Engineering (GR18A3127) 3. Robotics (GR18A4079)

6	Economic Policies in India (GR18A3122)	CE: 1. Green Building Technology (GR18A3128) 2.Building Materials and Construction Planning (GR18A2007) 3. Introduction to Fluid Mechanics (GR18A2010)