



## GOKARAJU RANGARAJU INSTITUTE OF ENGINEERING AND TECHNOLOGY

(Autonomous)

Bachupally, Kukatpally, Hyderabad-500090, India

### STRUCTURAL ENGINEERING M. Tech (STE) GR20 Course Structure

#### I YEAR - I SEMESTER

Sl. No	Group	Course Code	Subject	Credits			Total Credits	Total Hours	Int. Marks	Ext. Marks	Total Marks
				L	T	P					
1	PC	GR20D5001	Matrix methods in structural analysis	3	0	0	3	3	30	70	100
2	PC	GR20D5002	Advanced Solid Mechanics	3	0	0	3	3	30	70	100
3	PE I	GR20D5003	1.Theory and Application of Cement Composites	3	0	0	3	3	30	70	100
		GR20D5004	2.Advanced Concrete Technology								
		GR20D5005	3. Theory of Structural Stability								
4	PE II	GR20D5006	1. Analytical and Numerical Methods for Structural Engineering	3	0	0	3	3	30	70	100
		GR20D5007	2.Structural Health Monitoring								
		GR20D5008	3. Structural Optimization								
5	PC	GR20D5009	Structural Design Lab	0	0	2	2	4	30	70	100
6	PC	GR20D5010	Advanced Concrete Lab	0	0	2	2	4	30	70	100
7	BS	GR20D5011	Research Methodology and IPR	2	0	0	2	2	30	70	100
<b>Total</b>				<b>14</b>	<b>0</b>	<b>8</b>	<b>18</b>	<b>22</b>	<b>210</b>	<b>490</b>	<b>700</b>
8	AC		Audit Course I	2	0	0	2	2	30	70	100

#### I YEAR - II SEMESTER

Sl. No	Group	Course Code	Subject	Credits			Total Credits	Total Hours	Int. Marks	Ext. Marks	Total Marks
				L	T	P					
1	PC	GR20D5012	FEM in Structural engineering	3	0	0	3	3	30	70	100
2	PC	GR20D5013	Structural Dynamics	3	0	0	3	3	30	70	100
3	PE III	GR20D5014	1. Advanced Steel Design	3	0	0	3	3	30	70	100
		GR20D5015	2. Design of Formwork								
		GR20D5016	3. Principles of Bridge Engineering								
4	PE IV	GR20D5017	1. Design of Advanced Concrete Structures	3	0	0	3	3	30	70	100
		GR20D5018	2. Advanced Design of Foundations								
		GR20D5019	3. Earthquake Resistant Design of Buildings								
5	PC	GR20D5020	Model Testing Lab	0	0	2	2	4	30	70	100
6	PC	GR20D5021	Numerical Analysis Lab	0	0	2	2	4	30	70	100
7	PW	GR20D5143	Mini Project	2	0	0	2	2	30	70	100
<b>Total</b>				<b>14</b>	<b>0</b>	<b>8</b>	<b>18</b>	<b>22</b>	<b>210</b>	<b>490</b>	<b>700</b>
8	AC		Audit Course II	2	0	0	2	2	30	70	100

## II YEAR - I SEMESTER

Sl. No	Group	Course Code	Subject	Credits			Total Credits	Total Hours	Int. Marks	Ext. Marks	Total Marks
				L	T	P					
1	PE V	GR20D5022	1. Design of Prestressed Concrete	3	0	0	3	3	30	70	100
		GR20D5023	2. Analysis of Laminated Composite Plates								
		GR20D5024	3. Analysis and Design of Shells and Folded Plates								
	OE	GR20D5146	1. Cost Management of Engineering Projects	3	0	0	3	3	30	70	100
		GR20D5147	2. Industrial Safety								
		GR20D5148	3. Operations Research								
		GR20D5149	4. Artificial Neural Networks and Fuzzy Systems								
		GR20D5150	5. Cyber Security								
		GR20D5151	6. Internet of Things Architecture and Design Principles								
3	PW	GR20D5144	Dissertation Phase - I	0	0	10	10	20	30	70	100
<b>Total</b>				<b>6</b>	<b>0</b>	<b>10</b>	<b>16</b>	<b>26</b>	<b>90</b>	<b>210</b>	<b>300</b>

### OPEN ELECTIVE

S. No.	BOS	Group	Course Code	Course
1	CE	OE	GR20D5146	Cost Management of Engineering Projects
2	EEE	OE	GR20D5147	Industrial Safety
3	ME	OE	GR20D5148	Operations Research
4	ECE	OE	GR20D5149	Artificial Neural Networks and Fuzzy Systems
5	CS	OE	GR20D5150	Cyber Security
6	IT	OE	GR20D5151	Internet of Things Architecture and Design Principles

## II YEAR - II SEMESTER

Sl. No	Group	Course Code	Subject	Credits			Total Credits	Total Hours	Int. Marks	Ext. Marks	Total Marks
				L	T	P					
1	PW	GR20D5145	Dissertation Phase - II	0	0	16	16	32	30	70	100
<b>Total</b>						<b>16</b>	<b>16</b>	<b>32</b>	<b>30</b>	<b>70</b>	<b>100</b>

### Audit Courses I & II

1	GR20D5152	English for Research Paper Writing
2	GR20D5153	Disaster Management
3	GR20D5154	Sanskrit for Technical Knowledge
4	GR20D5155	Value Education
5	GR20D5156	Indian Constitution
6	GR20D5157	Pedagogy Studies
7	GR20D5158	Stress Management by Yoga
8	GR20D5159	Personality Development through Life Enlightenment Skills