



# Graphic Era

Deemed to be University

Accredited by NAAC with Grade A

Approved by AICTE, Ministry of HRD, Govt. of India

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MASTER OF TECHNOLOGY  
STRUCTURAL ENGINEERING

## **Course Components of Academic Programme**

### **M.Tech. (Structural Engineering)**

Duration : 4 Semesters (2 Years)

Total Number of Credits : 68 Credits

### **Credits**

#### **Course Components**

1.	<b>Compulsory Courses</b>	
I.	Foundation Course(FC)	6
II.	Core Course(CC)	29
2.	<b>Elective Courses</b>	
I.	Departmental Electives (DE)	6
3.	<b>Discipline-Centric Additional Courses</b>	
I.	Mini Project(MP)	2
II.	Dissertation(DS)	22
III.	Optional Elective(OE)	3
4.	<b>General Courses</b>	
I.	Audit Course(AC)	0

**M. Tech (Structural Engineering)**  
**CURRICULAR STRUCTURE AND EVALUATION SCHEME**

Semester	Course ID	Course Title	Course Type	Credits	Lecture Hours	Tutorials	Practical Hrs	CW Asmnt	Mid Sem Exam	End Sem Exam	Total Marks
<b>Sem I</b>	MSE 101	Theory of Elasticity and Plasticity	CC	3	3	0	0	25	25	50	100
	MSE 102	FEM in Structural Engineering	CC	3	3	0	0	25	25	50	100
	MSE 103	Structural Dynamics	FC	3	3	0	0	25	25	50	100
	MSE 104	Computer Aided Analysis of Structures	CC	3	3	0	0	25	25	50	100
	MSE 105	Theory of plates and shells	CC	3	3	0	0	25	25	50	100
	MSE 151	Computer Aided Analysis Lab	CC	2	0	0	3	25	25	50	100
	MSE 152	Finite Element Analysis Lab	CC	2	0	0	3	25	25	50	100
	ACE 011-014	Audit Course 1	AC	0	2	0	0	25	25	50	100
				<b>19</b>	<b>17</b>	<b>0</b>	<b>6</b>	<b>200</b>	<b>200</b>	<b>400</b>	<b>800</b>
<b>Sem II</b>	MSE 201	Earthquake Resistant Design of Buildings	FC	3	3	1	0	25	25	50	100
	MSE 202	Advance Concrete Design	CC	3	3	1	0	25	25	50	100
	MSE 203	Advance Steel Structure	CC	3	3	1	0	25	25	50	100
	MSE 204	Advance Concrete Technology	CC	3	3	1	0	25	25	50	100
	MSE 251	Advanced Material Testing Lab	CC	2	0	0	3	25	25	50	100
	MSE 252	Computer Aided Design Lab	CC	2	0	0	3	25	25	50	100
	ACE 015-018	Audit Course 2	AC	0	2	0	0	25	25	50	100
				<b>16</b>	<b>14</b>	<b>4</b>	<b>6</b>	<b>175</b>	<b>175</b>	<b>350</b>	<b>700</b>
<b>Sem III</b>	MSE 311-318	Elective-I	DE	3	3	0	0	25	25	50	100
	MSE 321-328	Elective-II	DE	3	3	0	0	25	25	50	100
	OCE 351-358	Open Elective	OE	3	3	0	0	25	25	50	100
	MSE 340	Dissertation Phase-I	DS	6	0	0	12	0	0	100	100
	MSE 341	Mini project	MP	2	0	0	4	0	30	70	100
				<b>17</b>	<b>9</b>	<b>0</b>	<b>16</b>	<b>75</b>	<b>105</b>	<b>320</b>	<b>500</b>
<b>Sem IV</b>	MSE 400	Dissertation Phase-II	DS	16	0	0	32	0	30	70	100
				<b>16</b>	<b>0</b>	<b>0</b>	<b>32</b>	<b>0</b>	<b>30</b>	<b>70</b>	<b>100</b>
<b>Total</b>				<b>68</b>	<b>40</b>	<b>4</b>	<b>60</b>	<b>450</b>	<b>510</b>	<b>1140</b>	<b>2100</b>

**ELECTIVE OFFERED**

<b>SemII-A1</b>	ACE 011	English for Research Paper Writing	AC
	ACE 012	Disaster Management	AC
	ACE 013	Sanskrit for Technical Knowledge	AC
	ACE 014	Value Addition	AC
	ACE 015	Constitution of India	AC
	ACE 016	Pedagogy Studies	AC
	ACE 017	Stress Management by Yoga	AC
	ACE 018	Life Enlightenment Skills	AC
<b>SemIII-E1</b>	MSE 311	Structural Reliability	DE
	MSE 312	Stability Analysis of Structures	DE
	MSE 313	Structural Optimization	DE
	MSE 314	Seismic hazard assessment	DE
	MSE 315	Soil-Structure Interaction	DE
	MSE 316	Mechanics of Composite Materials	DE
	MSE 317	Experimental Stress Analysis	DE
	MSE 318	Fracture mechanics of Concrete Structures	DE
<b>SemIII-E2</b>	MSE 321	Advanced Design of Foundations	DE
	MSE 322	Design of Formwork	DE
	MSE 323	Design of high rise structures	DE
	MSE 324	Pre-stressed Concrete Structures	DE
	MSE 325	Design of Industrial Structures	DE
	MSE 326	Seismic Evaluation and retrofitting of structures	DE
	MSE 327	Maintenance and Rehabilitation of Structures	DE
	MSE 328	Design of bridges	DE
<b>SemII-O1</b>	OCE 351	Cost Management of Engineering Projects	OE
	OCE 352	Industrial Safety	OE
	OCE 353	Research Methodology and IPR	OE
	OCE 354	Waste to Energy	OE
	OCE 355	Seismic Hazard Mitigation and Management	OE
	OCE 356	Rehabilitation reconstruction and Recovery	OE
	OCE 357	Disaster Response and Disaster Management	OE
	OCE 358	Risk Assessment and vulnerability analysis	OE