



**DEPARTMENT OF CIVIL ENGINEERING  
INDIAN INSTITUTE OF TECHNOLOGY ROORKEE**

Program Code:     **20**     **M. Tech. (Structural Engineering)**  
 Department:       **CE**     **Civil Engineering**  
 Year:               **II**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
<b>Semester- I (Autumn)</b>														
1.	CEN-701A	Dissertation Stage-I (to be continued next semester)	DIS	12	-	-	-	-	-	-	-	-	100	-
		Total		12										
<b>Note: Students can take 1 or 2 audit courses as advised by the supervisor, if required.</b>														
<b>Semester-II (Spring)</b>														
1.	CEN-701B	Dissertation Stage-II (contd. From III semester)	DIS	18	-	-	-	-	-	-	-	-	100	-
		Total		18										

<b>Summary</b>				
Semester	1	2	3	4
<b>Semester-wise Total Credits</b>	<b>20</b>	<b>18</b>	<b>12</b>	<b>18</b>
<b>Total Credits</b>	<b>68</b>			

**Program Elective Courses (Structural Engineering)**

Teaching Scheme					Contact Hours/Week			Exam Duration		Relative Weight (%)				
S. No.	Subject Code	Course Title	Subject Area	Credits	L	T	P	Theory	Practical	CWS	PRS	MTE	ETE	PRE
1.	CEN-521	Advanced Numerical Analysis (Autumn)	PEC	4	3	-	2	3	-	15	25	20	40	-
2.	CEN-641	Behaviour & Design of Steel Structures (Autumn)	PEC	4	3	-	2	3	-	15	25	20	40	-
3.	CEN-642	Analysis and Design of Bridges	PEC	4	3	-	2	3	-	15	25	20	40	-
4.	CEN-643	Analysis and Design of High rise Buildings	PEC	4	3	-	2	3	-	15	25	20	40	-
5.	CEN-644	Analysis and Design of Plates and Shells	PEC	4	3	-	2	3	-	15	25	20	40	-
6.	CEN-645	Mechanics of Composites	PEC	4	3	1	-	3	-	25	-	25	50	-
7.	CEN-646	Engineering Design Optimization and Reliability	PEC	4	3	-	2	3	-	15	25	20	40	-
8.	CEN-647	Condition Assessment and Retrofitting of Structures	PEC	4	3	-	2	3	-	15	25	20	40	-
9.	CEN-648	Concrete Technology	PEC	4	3	-	2	3	-	15	25	20	40	-
10.	CEN-649	Fracture Mechanics in Quasi-Brittle Materials	PEC	4	3	1	-	3	-	25	-	25	50	-
11.	CEN-650	Design of Bridge Sub-structure	PEC	4	3	-	2	3	-	15	25	20	40	-
12.	CEN-651	Wind Engineering	PEC	4	3	-	2	3	-	15	25	20	40	-