

**ME – STRUCTURAL ENGINEERING**
**13. Courses of Study and Scheme of Assessment**
**(2021 REGULATIONS)**
**(Minimum No. of credits to be earned:70\*)**

Course Code	Course Title	Hours / Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
<b>I SEMESTER</b>									
21CS01	Applied Numerical Methods	3	1	0	4	50	50	100	PC
21CS02	Applied Elasticity and Plasticity	3	0	0	3	50	50	100	PC
21CS03	Computer Analysis of Structures	3	1	0	4	50	50	100	PC
21CS04	Advanced Reinforced Concrete Design	3	0	0	3	50	50	100	PC
21CS05	Advanced Structural Steel Design	3	1	0	4	50	50	100	PC
21CS06	Research Methodology and IPR	2	0	0	2	50	50	100	RMC
21CS72	Audit Course-I	2	0	0	Grade	100	0	100	MC
21CS51	Advanced Concrete Laboratory	0	0	4	2	50	50	100	PC
21CS52	Structural Engineering Laboratory	0	0	4	2	50	50	100	PC
<b>Total 30 Hrs</b>		<b>19</b>	<b>3</b>	<b>8</b>	<b>24</b>	<b>500</b>	<b>400</b>	<b>900</b>	
<b>II SEMESTER</b>									
21CS07	Finite Element Method	3	0	0	3	50	50	100	PC
21CS08	Structural Dynamics	3	1	0	4	50	50	100	PC
21CS__	Professional Elective I	3	0	0	3	50	50	100	PE
21CS__	Professional Elective II	3	0	0	3	50	50	100	PE
21CS__	Professional Elective III	3	0	0	3	50	50	100	PE
21CS82	Audit Course-II	2	0	0	Grade	100	0	100	MC
21CS61	Symbolic and Numerical Computation Laboratory	0	0	4	2	50	50	100	PC
21CS62	Computer Aided Structural Analysis and Design Laboratory	0	0	4	2	50	50	100	PC
21CS63	Industry Visit and Technical Seminar	0	0	4	2	50	50	100	EEC
<b>Total 30 Hrs</b>		<b>17</b>	<b>1</b>	<b>12</b>	<b>22</b>	<b>500</b>	<b>400</b>	<b>900</b>	
<b>III SEMESTER</b>									
21CS__	Professional Elective IV	3	0	0	3	50	50	100	PE
21CS__	Open Elective	3	0	0	3	50	50	100	OE
21CS71	Project Work I	0	0	12	6	50	50	100	EEC
<b>Total 18 Hrs</b>		<b>6</b>	<b>0</b>	<b>12</b>	<b>12</b>	<b>150</b>	<b>150</b>	<b>300</b>	
<b>IV SEMESTER</b>									
21CS81	Project Work II	0	0	24	12	50	50	100	EEC

Total 24 Hrs		0	0	24	12	50	50	100	
<b>PROFESSIONAL ELECTIVE THEORY COURSES (Four to be opted)</b>									
21CS21	Structural Stability	3	0	0	3	50	50	100	PE
21CS22	Prestressed concrete Structures	3	0	0	3	50	50	100	PE
21CS23	Bridge Engineering	3	0	0	3	50	50	100	PE
21CS24	Aseismic Design of Structures	3	0	0	3	50	50	100	PE
21CS25	Behaviour and Design of Tall Buildings	3	0	0	3	50	50	100	PE
21CS26	Advanced concrete Technology	3	0	0	3	50	50	100	PE
21CS27	Optimization Techniques	3	0	0	3	50	50	100	PE
21CS28	Shell and Spatial Structures	3	0	0	3	50	50	100	PE
21CS29	Experimental Techniques and Instrumentation	3	0	0	3	50	50	100	PE
21CS30	Theory of Plates	3	0	0	3	50	50	100	PE
21CS31	Industrial Structures	3	0	0	3	50	50	100	PE
21CS32	Mechanics of Composite Materials	3	0	0	3	50	50	100	PE
21CS33	Soft Computing In Structural Engineering	3	0	0	3	50	50	100	PE
21CS34	Design of Steel Concrete Composite Structures	3	0	0	3	50	50	100	PE
21CS35	Prefabricated Structures	3	0	0	3	50	50	100	PE
21CS36	Maintenance and Rehabilitation of Structures	3	0	0	3	50	50	100	PE
21CS37	Smart Materials and Smart Structures	3	0	0	3	50	50	100	PE
21CS38	Structural Health Monitoring	3	0	0	3	50	50	100	PE
21CS39	Foundation structures	3	0	0	3	50	50	100	PE
21CS40	Ground Improvement Techniques	3	0	0	3	50	50	100	PE
21CS41	Geotechnical Earthquake Engineering	3	0	0	3	50	50	100	PE
21CS42	Soil-Structure Interaction	3	0	0	3	50	50	100	PE

\* Indicated is the minimum number of credits to be earned by a student.

**CAT – Category; PC – Professional Core; PE - Professional Elective; RMC - Research Methodology and IPR; EEC – Employability Enhancement Course; MC - Mandatory Course; Grade – Completed / Not completed; OE – Open elective**