

### 13. Courses of Study and Scheme of Assessment

#### ME STRUCTURAL ENGINEERING

(2015 REGULATIONS)  
(Minimum No. of credits to be earned: 74\*)

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
<b>I SEMESTER</b>									
15CS01	Applied Statistics and Reliability	2	2	-	3	50	50	100	FC
15CS02	Concepts of Structural and Geotechnical Engineering	3	0	-	3	50	50	100	FC
15CS03	Advanced Concrete Technology	3	-	-	3	50	50	100	PC
15CS04	Reinforced concrete Design	3	-	-	3	50	50	100	PC
15CS05	Computer Analysis of Structures	3	2	-	4	50	50	100	PC
15CS51	Concrete Technology and Structural Engineering Laboratory	-	-	4	2	100	-	100	PC
15CS61	Industry Visit & Technical Seminar	-	-	4	2	100	-	100	EEC
	<b>Total 26 Hrs</b>	<b>14</b>	<b>4</b>	<b>8</b>	<b>20</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>II SEMESTER</b>									
15CS06	Structural Steel Design	3	-	-	3	50	50	100	PC
15CS07	Structural Dynamics	3	2	-	4	50	50	100	PC
15CS08	Applied Elasticity and Plasticity	3	-	-	3	50	50	100	PC
15CS09	Foundation Structures	3	-	-	3	50	50	100	PC
15CS10	Prestressed Concrete Structures	3	-	-	3	50	50	100	PC
15CS	Professional Elective – 1	3	-	-	3	50	50	100	PE
15CS52	Symbolic and Numerical Computation Laboratory	-	-	2	1	100	-	100	PC
	<b>Total 22 Hrs</b>	<b>18</b>	<b>2</b>	<b>2</b>	<b>20</b>	<b>400</b>	<b>300</b>	<b>700</b>	
<b>III SEMESTER</b>									
15CS	Professional Elective – 2	3	-	-	3	50	50	100	PE
15CS	Professional Elective – 3	3	-	-	3	50	50	100	PE
15CS	Professional Elective – 4	3	-	-	3	50	50	100	PE
15CS	Professional Elective – 5	3	-	-	3	50	50	100	PE
15CS	Professional Elective – 6	3	-	-	3	50	50	100	PE
15CS53	Computer Aided Structural Analysis and Design Laboratory	-	-	4	2	100	-	100	PC
15CS71	Project Work I	-	-	6	3	100	-	100	EEC
	<b>Total 25 Hrs</b>	<b>15</b>	<b>0</b>	<b>10</b>	<b>20</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>IV SEMESTER</b>									
15CS72	Project Work II	-	-	28	14	50	50	100	EEC
<b>ELECTIVE THEORY COURSES (Six to be opted)</b>									
15CS21	Bridge Engineering	3	-	-	3	50	50	100	PE
15CS22	Finite Element Method	3	-	-	3	50	50	100	PE
15CS23	Aseismic Design of Structures	3	-	-	3	50	50	100	PE
15CS24	Behaviour and Design of Tall Buildings	3	-	-	3	50	50	100	PE
15CS25	Structural Stability	3	-	-	3	50	50	100	PE
15CS26	Optimization Techniques	3	-	-	3	50	50	100	PE
15CS27	Maintenance and Rehabilitation of Structures	3	-	-	3	50	50	100	PE
15CS28	Shell and Spatial Structures	3	-	-	3	50	50	100	PE
15CS29	Experimental Techniques and Instrumentation	3	-	-	3	50	50	100	PE
15CS30	Soil Structure Interaction	3	-	-	3	50	50	100	PE
15CS31	Theory of Plates	3	-	-	3	50	50	100	PE
15CS32	Industrial Structures	3	-	-	3	50	50	100	PE
15CS33	Mechanics of Composite Materials	3	-	-	3	50	50	100	PE
15CS34	Soft Computing In Structural Engineering	3	-	-	3	50	50	100	PE
15CS35	Geotechnical Earthquake Engineering	3	-	-	3	50	50	100	PE
15CS36	Reliability Analysis and Performance based Design	3	-	-	3	50	50	100	PE

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

**CAT – Category; FC – Foundation Course; PC – Professional Core; PE - Professional Elective  
EEC – Employability Enhancement Course**

## **SCIENCE ELECTIVES**

15ID01	Micro Electro Mechanical Systems (MEMS)
15ID02	Sensors for Engineering Applications
15ID03	Laser Processing of Materials
15ID04	Plasma Technology
15ID05	Nanosensor and its Applications
15ID06	Nano Magnetism and Spintronics
15ID07	Corrosion Science and Engineering
15ID08	Instrumental Methods of Chemical Analysis
15ID09	Polymer Science and Technology
15ID10	Nanomaterials and Nanotechnology
15ID11	Thin Film Technology

## **HUMANITIES AND LANGUAGES ONE CREDIT COURSES**

15OK01	Research Writing in Engineering Sciences
15OK02	Indian Ethos and Human Values
15OK03	Personality Development
15OK04	Financial Accounting and Cost Accounting