

**13. Courses of Study and Scheme of Assessment  
ME CONTROL SYSTEMS**

**(2015 REGULATIONS)  
(Minimum No. of credits to be earned: 75\*)**

Course Code	Course Title	Hours/Week			Credits	Maximum Marks			CAT
		Lecture	Tutorial	Practical		CA	FE	Total	
<b>I SEMESTER</b>									
15UC01	Systems Engineering Mathematics	2	2	0	3	50	50	100	FC
15UC02	Measurement Systems	3	0	0	3	50	50	100	FC
15UC03	Linear Systems Theory and Design	4	0	0	4	50	50	100	PC
15UC04	Principles of Feedback Control	3	0	0	3	50	50	100	PC
15UC05	Advanced Virtual Instrumentation	4	0	0	4	50	50	100	PC
15UC51	Object Computing and Data Structures Laboratory	0	0	4	2	100	0	100	PC
15UC61	Industry Visit & Technical Seminar	0	0	2	1	100	0	100	EEC
<b>Total 24 Hrs</b>		<b>16</b>	<b>2</b>	<b>6</b>	<b>20</b>	<b>450</b>	<b>250</b>	<b>700</b>	
<b>II SEMESTER</b>									
15UC06	System Identification	3	0	0	3	50	50	100	PC
15UC07	Advanced Digital Signal Processing	3	0	0	3	50	50	100	PC
15UC08	Nonlinear Control	3	0	0	3	50	50	100	PC
15UC09	Advanced Process Control	4	0	0	4	50	50	100	PC
15UC10	Optimal Control	3	0	0	3	50	50	100	PC
15UC__	Professional Elective – 1	3	0	0	3	50	50	100	PE
15UC52	Industrial Automation Laboratory	0	0	4	2	100	0	100	PC
<b>Total 23 Hrs</b>		<b>19</b>	<b>0</b>	<b>4</b>	<b>21</b>	<b>400</b>	<b>300</b>	<b>700</b>	
<b>III SEMESTER</b>									
15UC__	Professional Elective – 2	3	0	0	3	50	50	100	PE
15UC__	Professional Elective – 3	3	0	0	3	50	50	100	PE
15UC__	Professional Elective – 4	3	0	0	3	50	50	100	PE
15UC__	Professional Elective – 5	3	0	0	3	50	50	100	PE
15UC__	Professional Elective – 6	3	0	0	3	50	50	100	PE
15UC53	Advanced Control Laboratory	0	0	4	2	100	0	100	PC
15UC71	Project Work I	0	0	6	3	100	0	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>									
15UC72	Project Work II	<b>0</b>	<b>0</b>	<b>28</b>	<b>14</b>	<b>50</b>	<b>50</b>	<b>100</b>	EEC
<b>PROFESSIONAL ELECTIVE THEORY COURSES</b>									
<b>Courses for Professional Elective – 1 (One to be opted)</b>									
15UC21	Logic and Distributed Control System	3	0	0	3	50	50	100	PE
15UC22	VLSI System Design	3	0	0	3	50	50	100	PE
<b>Courses for Professional Electives – 2 to 6 (Five to be opted)</b>									
15UC23	Adaptive Control System	3	0	0	3	50	50	100	PE
15UC24	Robust Control	3	0	0	3	50	50	100	PE
15UC25	Industrial Drives and Control	3	0	0	3	50	50	100	PE
15UC26	Applied Soft Computing	3	0	0	3	50	50	100	PE
15UC27	Robotic Systems	3	0	0	3	50	50	100	PE
15UC28	Building Automation Systems	3	0	0	3	50	50	100	PE
15UC29	Machine Vision	3	0	0	3	50	50	100	PE
15UC30	State Estimation	3	0	0	3	50	50	100	PE
15UC31	Optimization Techniques	3	0	0	3	50	50	100	PE
15UC32	Embedded Systems	3	0	0	3	50	50	100	PE

15UC33	Wavelets and Applications	3	0	0	3	50	50	100	PE
15UC34	Sliding Mode Control	3	0	0	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