

**TWO YEAR (FOUR SEMESTERS) M.E. DEGREE IN
ELECTRICAL ENGINEERING
SPECIALIZATION: INSTRUMENTATION &
CONTROL ENGINEERING**

Regulation, Course structure & syllabus

Course structure

First Year: First Semester

Sl no	Sub code	Subject name	L	T	P	Marks		
						Theory	Sessional	Practical
1	IN-101	Process Dynamics & Control	4	1	0	75	25	-
2	IN-102	Instrumentation System Components	4	1	0	75	25	-
3	M-101	Linear Algebra & Random Process	4	1	0	75	25	-
4		Elective-I	4	1	0	75	25	-
5		Elective -II	4	1	0	75	25	-
6	IN-107	Instrumentation System Lab	0	0	2	-	-	50
TOTAL MARKS:						375	125	550

Contact Hours: 27; Total Marks: 375 (Th) + 125(Se) + 50 (Pr) = 550

Sessional Marks Break-up: Midsem-50%, Class Assessment-30%, Attendance-20%

List of Elective subjects: Elective I & II

Sl no	Sub code	Subject name	Offering branch
1	E-101	Design of Automatic Control Systems	E
1	E-102	Digital Signal Processing	E
2	E-103	Digital Image Processing	E,CS
3	IN-103	Sensor Technology	IN
4	IN-104	Fiber Optic & Laser Instrumentation	IN
5	IN-105	Microsystems- Principle, Design & Applications	IN
6	E-104	Industrial Automation & Robotics	E,IN,CS,M
7	CS-101	Artificial Intelligence	E,IN,CS,M
8	IN-106	Digital Instrumentation	IN
9	M-101	Introduction to Mechatronics	IN,M
10	E-105	Digital Integrated Circuit Design	E,IN,CS
11	CS-102	Soft Computing Techniques	E,IN,CS,M
12	E-106	Optimal Control Theory	E,IN
13	E-107	Microcontrollers and their Interfacing	E,IN
14	E-108	Energy Management	E,M

First Year: Second Semester

Sl no	Sub code	Subject name	L	T	P	Marks		
						Theory	Sessional	Practical
1	IN-201	Virtual Instrumentation	4	1	0	75	25	-
2	E-201	Adaptive Control Systems	4	1	0	75	25	-
3		Elective –III	4	1	0	75	25	-
4		Elective-IV	4	1	0	75	25	-
5		Elective -V	4	1	0	75	25	-
6	E-212	Control System Lab	0	0	2	-	-	50
		TOTAL MARKS:				375	125	550

Contact Hours: 27; Total Marks: 375 (Th) + 125 (Se) + 50 (Pr) = 550

Sessional Marks Break-up: Midsem-50%, Class Assessment-30%, Attendance-20%

List of Elective subjects: Elective III, IV & V

Sl no	Sub code	Subject name	Offering branch
1	IN-202	Micro electro-Mechanical Systems	IN
2	IN-203	Bio Process Instrumentation & control	IN
3	IN-204	Analytical Instruments	IN
4	E-202	System Modelling & Identification	E,IN
5	E-203	Discrete Time Control System	E,IN
6	E-204	Power Plant Instrumentation	E
7	IN-205	Multisensory Data Fusion	IN
8	E-205	Logic & Distributed Control Systems	E,IN
10	E-206	PC Based Instrumentation	E,IN
11	E-207	PC Interfacing and Data Acquisition	E,IN
12	CS-201	Computer Graphics	E,IN,CS
13	CS-202	Computer Vision	E,IN,CS
14	CS-203	VLSI Design	E,IN,CS
15	E-208	Real Time Embedded Systems	E,IN,CS
16	CS-204	Data Communication & Computer Networks	E,IN,CS
17	CS-205	Communication Protocol & Instrumentation	E,IN,CS
18	C-201	Remote Sensing & Geographical Information Systems	C
19	E-209	Intelligent control system	E,IN
20	E-210	Speech Processing	E, IN, CS
21	E-211	Natural Language Processing	E, IN, CS

Second Year: Third Semester

Sl no	Sub code	Subject name	L	T	P	Marks		
						Theory	Sessional	Practical
1	E-301	Credit Seminar*	0	0	0	-	-	100
2	E-302	Comprehensive Viva	0	0	0	-	-	100
3	E-303	Project Progress Seminar	0	0	0	-	150	100
4		Project to be continued to 4 th semester	0	0	0	-	-	-
TOTAL MARKS:							150	300

Total Marks: 150 (Se) + 300 (Pr) = 450

*Credit Seminar: The Seminar topic must be related to current advancement made in the field of Instrumentation & Control Engineering.

Second Year: Fourth Semester

Sl no	Sub code	Subject name	L	T	P	Marks		
						Theory	Sessional	Practical
1	E-401	Project Defense Seminar	0	0	0	-	-	150
2	E-402	Project/Dissertation	0	0	0	-	200	-
3	E-403	Project Defense Viva	0	0	0	-	-	100
TOTAL MARKS:							200	250

Total Marks: 200 (Se) + 250 (Pr) = 450