

**An Autonomous Programme Structure of
M. Tech. Instrumentation and Control Engineering
Specialization: Automation
(AY: 2019-2020)**

SEMESTER I

Course Code	Course Title	Teaching Scheme Hours/Week			Examination Scheme				Marks	Credit
		Lecture	Tutorial	Practical	In Semester	End Semester	Oral	Practical		
INA 1101	Advanced Mathematics & Statistical Methods	3	1	0	50	50	0	0	100	4
INA 1102	Research Methodology	3	1	0	50	50	0	0	100	4
INA 1103	Industrial Internet of Things	3	0	0	50	50	0	0	100	3
INA 1104	Robotic Process Automation	3	0	0	50	50	0	0	100	3
PEINA 1101	Programme Elective I	3	0	0	50	50	0	0	100	3
INA 1105	Industrial Internet of Things Lab	0	0	2	25	0	0	0	25	1
INA 1106	Robotic Process Automation Lab	0	0	2	0	0	0	25	25	1
PEINA 1102	Programme Elective I Lab	0	0	2	0	0	25	0	25	1
Total		15	2	6	275	250	25	25	575	20
Grand Total		23			575				575	20

PEINA 1101: Programme Elective I:

- A. Building Automation System
- B. Asset Tracking and Management System
- C. Computer Vision

SEMESTER II

Course Code	Course Title	Teaching Scheme Hours / Week		Examination Scheme					Marks	Credit
		Lecture	Tutorial	Practical	In Semester	End Semester	Oral	Practical		
INA 1201	Computer Organization and Architecture	3	0	0	50	50	0	0	100	3
INA 1202	Manufacturing Execution System	3	1	0	50	50	0	0	100	4
INA 1203	Advanced Control Systems	3	0	0	50	50	0	0	100	3
INA 1204	Artificial Intelligence & Machine Learning	3	0	0	50	50	0	0	100	3
PEINA 1201	Programme Elective II	3	0	0	50	50	0	0	100	3
INA 1205	Advanced Control Applications Lab	0	0	2	0	0	0	25	25	1
INA 1206	Artificial Intelligence & Machine Learning Lab	0	0	2	0	0	25	0	25	1
PEINA 1202	Programme Elective II Lab	0	0	2	25	0	0	0	25	1
AC 1201	Audit Course*	0	0	2	0	0	0	0	0	0
Total		15	1	8	275	250	25	25	575	19
Grand Total		24		575					575	19

PEINA 1201: Programme Elective II

- A. Power Generation & Management
- B. Vehicle Intelligence
- C. System Simulation & Modeling

AC1201: Audit Course

- A. Soft Skills and Business Communications
- B. Entrepreneurship Development

SEMESTER III

Course Code	Course Title	Teaching Scheme Hours /Week			Examination Scheme			Marks	Credit
		Lecture	Tutorial	Practical	In Semester	End Semester	Oral		
OEHS 2101	Open Elective I (Online Course)	3	0	0	50	50	0	100	3
PEINA 2101	Programme Elective III (Online Course)	3	0	0	50	50	0	100	3
INA 2101	Project Stage I	0	0	20	100	0	100	200	10
Total		6	0	20	200	100	100	400	16
Grand Total		26			400			400	16

OEHS 2101: Open Elective I: Swayam Online Courses under Humanities and Sciences approved by Department (ISE & ESE will be conducted by the college)

Such as..

- A. Environmental Studies
- B. Engineering Economics & Project Management
- C. Fundamentals of Disaster Management
- D. Organizational Behavioral Management

PEINA 2101: Programme Elective III Online Course offered by the Department

- A. Safety & Automation Systems
- B. Quality Assessment and Testing
- C. Smart Manufacturing

SEMESTER IV

Course Code	Course Title	Teaching Scheme Hours /Week			Examination Scheme			Marks	Credit
		Lecture	Tutorial	Practical	In Semester	End Semester	Oral		
INA 2201	Project Stage II	0	0	30	200	0	150	350	15
Total		0	0	30	200	0	150	350	15
Grand Total		30			350			350	15