

# **PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY**

## **Department of Mechanical Engineering**

**Faculty Name: - Naveen Kumar**

**Subject Name:-Mechatronics**

**Year/Semester: 4<sup>th</sup> /7<sup>th</sup>**

**Subject Code: - MT-403N**

### **LESSON PLAN**

<b>Sr. No.</b>	<b>Lecture No.</b>	<b>Topics To Be Covered</b>	<b>Tentative Date</b>
1	L1	<b>UNIT1:</b> Introduction to Mechatronics	16/7/2019
2	L2	Mechatronics used in industries	18/7/2019
3	L3	System in which mechatronics used	19/7/2019
4	L4	Evolution of Mechatronics	22/7/2019
5	L5	Introduction on Loop System	23/7/2019
6	L6	Introduction on Number system	25/7/2019
7	L7	Introduction Uses of Binary Number	26/7/2019
8	L8	Mechatronics approach	29/7/2019
9	L9	Evolution, Scope Measurement Systems.	30/7/2019
10	L10	Measurement Systems.	1/8/2019
11	L11	Control Systems.	2/8/2019
12	L12	open and close loop systems	5/8/2019
13	L13	Mechatronics approach	6/8/2019
14	L14	Optical power launching and coupling	8/8/2019
15	L15	Introduction to Number System	9/8/2019

16	L16	Binary number	12/8/2019
17	L17	Addition and subtraction of Binary numbers	13/8/2019
18	L18	Introduction to Boolean algebra	16/8/2019
19	L19	Logic Operations: AND operations, OR operations	19/8/2019
20	L20	NOT operations, NAND operations	20/8/2019
21	L21	NOR operations, X-OR and X-NOR operations	22/8/2019
22	L22	Karnaugh Maps, Timing Diagrams	23/8/2019
23	L23	Flip Flops, Application	26/8/2019
24	L24	<b>Unit-2:-</b> Sensors and transducers: Introduction, performance terminology	27/8/2019
25	L25	Displacement and Position sensors	29/8/2019
26	L26	Proximity sensors	30/8/2019
27	L27	Velocity and motion, force	2/9/2019
28	L28	Fluid Pressure, Temperature Sensors	3/9/2019
29	L29	Light Sensors	5/9/2019
30	L30	Selection of Sensors-Signal Processing	6/9/2019
31	L31	Introduction to Pneumatic and Hydraulic actuation systems and actuation systems,	9/9/2019
32	L32	Pneumatic and hydraulic systems	10/9/2019

33	L33	Directional control valves, pressure control valves	12/9/2019
34	L34	cylinders, process control valves	13/9/2019
35	L35	Rotary actuators	16/9/2019
36	L36	Revision and Tutorial Sheet-1	17/9/2019
37	L37	Doubt Session	19/9/2019
38	L38	Discussion on Sessional Paper and doubt	26/9/2019
39	L39	<b>UNIT 3: Mechanical actuation systems</b>	27/9/2019
40	L40	Types of motion, kinematics chains	30/9/2019
41	L41	Cams, gear trains,	1/10/2019
42	L42	Ratchet and pawl	3/10/2019
43	L43	Belt and chain drives, bearings, Mechanical aspects of motor selection.	4/10/2019
44	L44	Microprocessor: Introduction, Architecture, Pin Configuration, Instruction set	7/10/2019
45	L45	Programming of Microprocessors using 8085 instructions	10/10/2019
46	L46	Interfacing input and output devices, Interfacing D/A converters and A/D converters, Applications	11/10/2019
47	L47	Temperature control, Stepper motor control, Traffic light controller	14/10/2019
48	L48	Revision of unit-3, Tutorial Sheet -02	15/10/2019
49	L49	Doubt	17/10/2019

50	L50	Revision	18/10/2019
51	L51	<b>Unit-4</b> Programmable Logic Controller	24/10/2019
52	L52	Input/output Processing	25/10/2019
53	L53	Programming,	31/10/2019
54	L54	Mnemonics, Timers	4/11/2019
55	L55	Internal relays and counters, Data handling	5/11/2019
56	L56	Analog Input/Output, Selection of a PLC.	7/11/2019
57	L57	Robotics: Introduction, types of robots, Robotic control	8/11/2019
58	L58	Robot drive systems	11/11/2019
59	L59	Robot end effectors	14/11/2019
60	L60	Selection parameters of a robot, applications.	15/11/2019
61	L61	Revision	18/11/2019
62	L62	Revision	19/11/2019

)