

**PANIPAT INSTITUTE OF ENGINEERING & TECHNOLOGY**  
**Department of Mechanical Engineering**

Faculty Name: - Naveen Kumar                      Subject Name: -Mechatronics Systems  
Year/Semester: 4<sup>th</sup> /7<sup>th</sup> Subject Code: - MEP-407A

**LESSON PLAN**

Sr. No.	Lecture No.	Topics To Be Covered	Tentative Date	Teaching Mode
1	L1	<b>UNIT1:</b> Definition of mechatronics, multi-disciplinary scenario.	13/9/2021	Via- Microsoft Team, PPT, with help of youtube etc.
2	L2	evaluation of mechatronics, objectives, advantages & disadvantages of mechatronics	14/9/2021	
3	L3	An overview of mechatronics,	17/9/2021	
4	L4	Microprocessor based controllers, principle of working of automatic camera	20/9/2021	
5	L5	Automatic washing machine & engine management system.	21/9/2021	
6	L6	Definition and classification of transducers	24/9/2021	
9	L9	Definition & classification of sensors	27/9/2021	
8	L8	Performance terminology	28/9/2021	
9	L9	Working principle and application of displacement	1/10/2021	
10	L10	Addition and subtraction of Binary numbers	4/10/2021	
11	L11	Position & proximity, velocity and motion	5/10/2021	
12	L12	Force, fluid pressure, liquid flow, liquid level, temperature, light sensors, selection of transducers.	8/10/2021	
13	L13	<b>UnitII:</b> Introduction, digital number system	11/10/2021	
14	L14	Range and weight of binary number system	12/10/2021	
15	L15	Octal and hexadecimal number systems, conversion, BCD number systems	15/10/2021	

16	L16	Gray code, Boolean algebra.	18/10/2021	Via- Microsoft Team, PPT, with help of youtube etc.
19	L19	Logic states, logic functions, more logic gates	19/10/2021	
110	L110	Universal gates, exclusive-OR gate.	22/10/2021	
19	L19	Minimization of Boolean expression usingKarnaugh map.	25/10/2021	
20	L20	8086 CPU architecture: 8086Block diagram, description of data registers	26/10/2021	
21	L21	8086 Pin diagram descriptions,	29/10/2021	
22	L22	8086minimum mode and maximum mode CPU module.	1/11/2021	
23	L23	Addressregisters; pointer and index registers, PSW, Queue, BIU and EU	2/11/2021	
24	L24	<b>Unit III:</b> Introduction of 8086 microcontroller	1/11/2021	
25	L25	8086 microcontroller &its block diagram	2/11/2021	
26	L26	Comparison of microprocessor and microcontroller	8/11/2021	
29	L29	Programmable logic controllers	9/11/2021	
210	L210	Basic structure, input/output processing, ladder diagram timers	15/11/2021	
211	L211	Internal relays and counters	16/11/2021	
30	L30	Shift registers, master and jump controls,	22/11/2021	
31	L31	Data handling, analogue input/output, selection of a PLC.	23/11/2021	
32	L32	<b>UNIT 4:</b> Definition, classification of actuators	26/11/2021	
33	L33	Mechanical actuation systems	29/11/2021	
34	L34	Types of motion, kinematics chains	30/11/2021	
35	L35	Cams, gear trains, ratchet and pawl	3/12/2021	
36	L36	Belt and chain drives, bearings.	6/12/2021	
311	L311	Brief survey of electromechanical actuators,	7/12/2021	
310	L310	Drive requirements for cutting	13/12/2021	

		movements, requirements of feed drives		
311	L311	Requirements of feed drives.	14/12/2021	Via- Microsoft Team, PPT, with help of youtube etc.
40	L40	Calculation of drive requirements on feed motor shaft	20/12/2021	
41	L41	DC motors & Control of DC motors,	21/12/2021	
42	L42	DC & AC servomotors,	24/12/2021	
43	L43	stepper motors-types Characteristics,	27/12/2021	
44	L44	Advantages Limitations and applications, mechanical aspects of motor selection.	03/01/2022	
45	L45	8086 CPU architecture: 8086 Block diagram, description of data registers	4/1/2022	
46	L46	8086 Pin diagram descriptions,	7/01/2022	
47	L47	8086 minimum mode and maximum mode CPU module.	17/01/2022	
48	L48	Revision classes	18/01/2022	
49	L49	Doubt classes	24/01/2022	
50	L50	Doubt Classes	25/01/2022	

Course In charge